Quarks

			I_3	Y	$Q = I_3 + Y/2$
$\begin{bmatrix} u \\ d \end{bmatrix}_L$	$\begin{bmatrix} c \\ s \end{bmatrix}_L$	$\begin{bmatrix} t \\ b \end{bmatrix}_L$	$+1/2$	$+1/3$	$+2/3$
			$-1/2$	$+1/3$	$-1/3$
u_R	c_R	t_R	0	$+4/3$	$+2/3$
d_R	s_R	b_R	0	$-2/3$	$-1/3$

Leptons

			I_3	Y	$Q = I_3 + Y/2$
$\begin{bmatrix} \nu_e \\ e \end{bmatrix}_L$	$\begin{bmatrix} \nu_\mu \\ \mu \end{bmatrix}_L$	$\begin{bmatrix} \nu_\tau \\ \tau \end{bmatrix}_L$	$+1/2$	-1	0
			$-1/2$	-1	-1
e_R	μ_R	τ_R	0	-2	-1

FIG. 1. Campagnari and Franklin

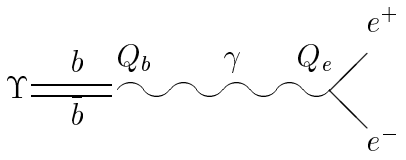


FIG. 2. Campagnari and Franklin

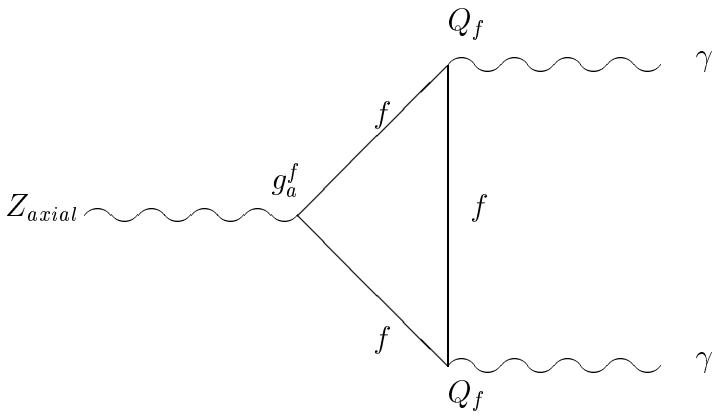


FIG. 3. Campagnari and Franklin

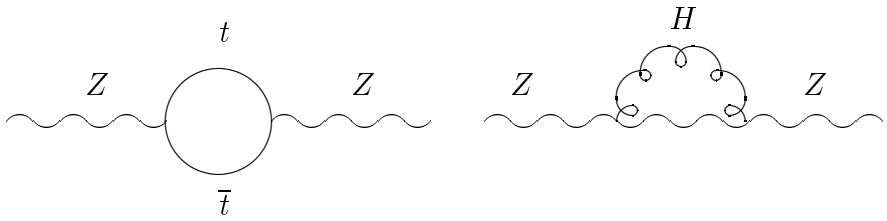
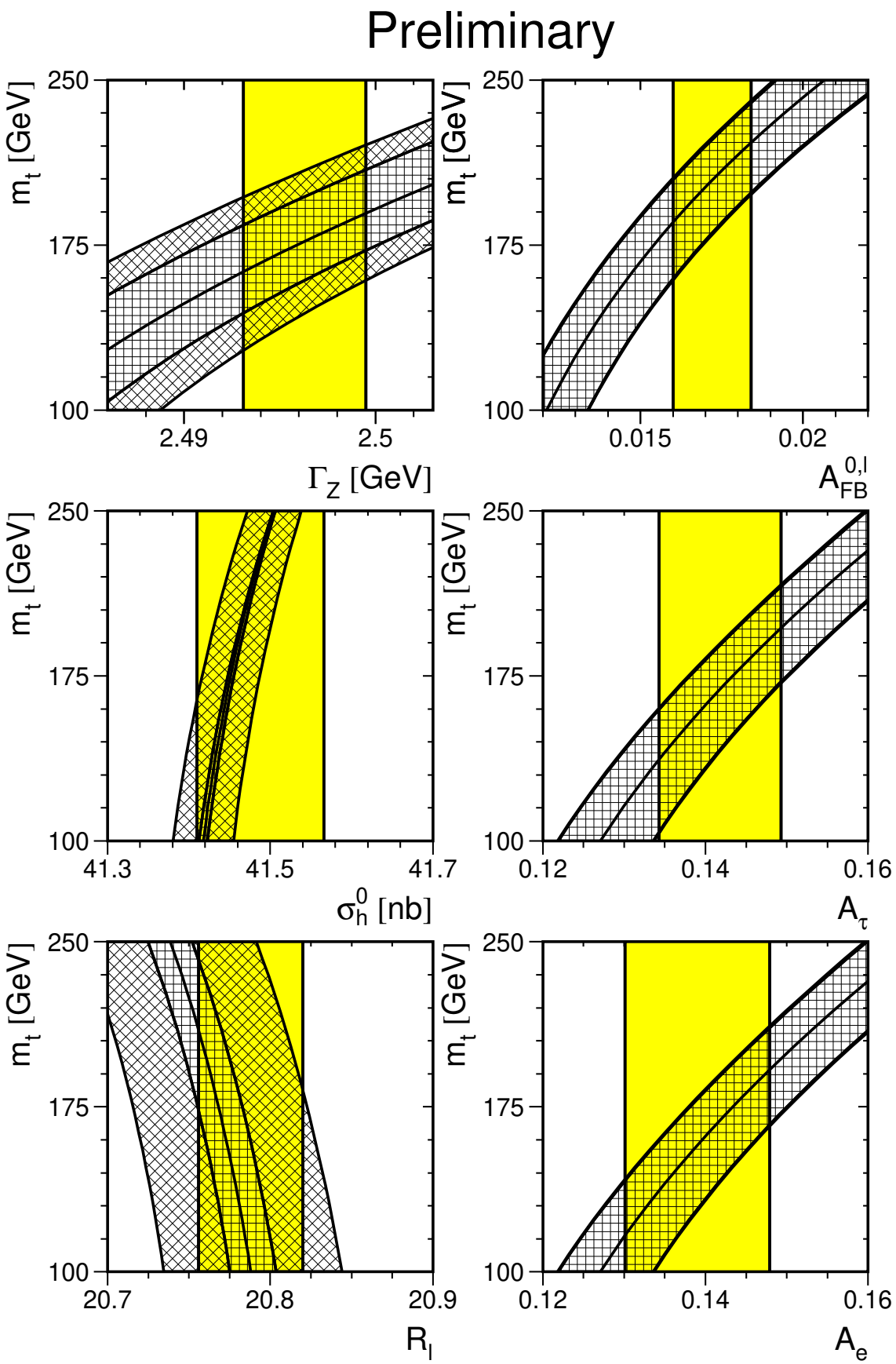


FIG. 4. Campagnari and Franklin



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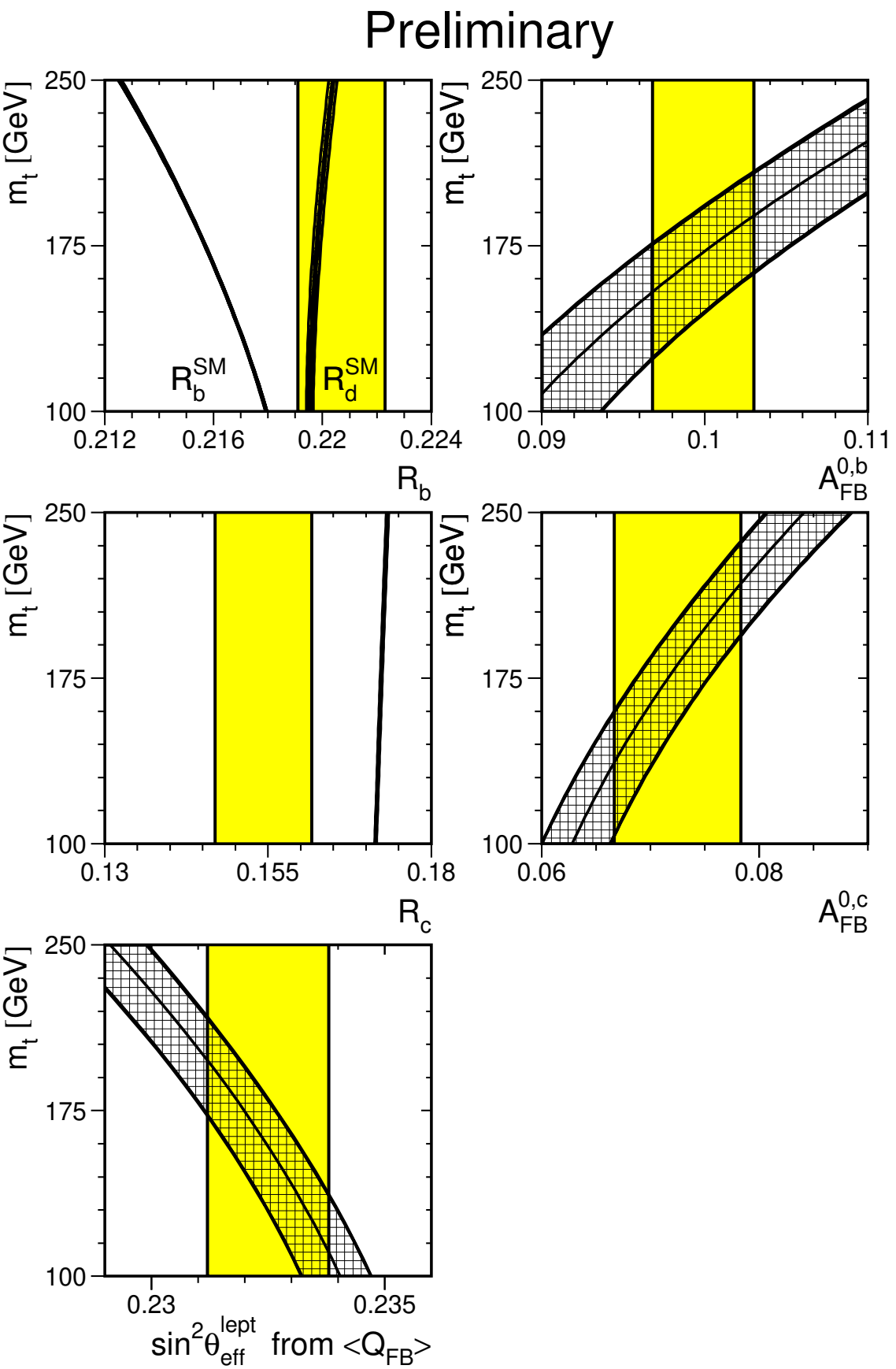
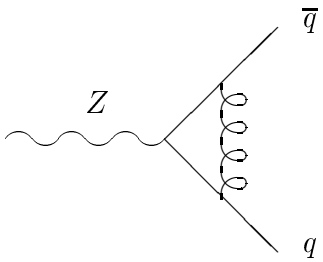


FIG. 6. Campagnari and Franklin



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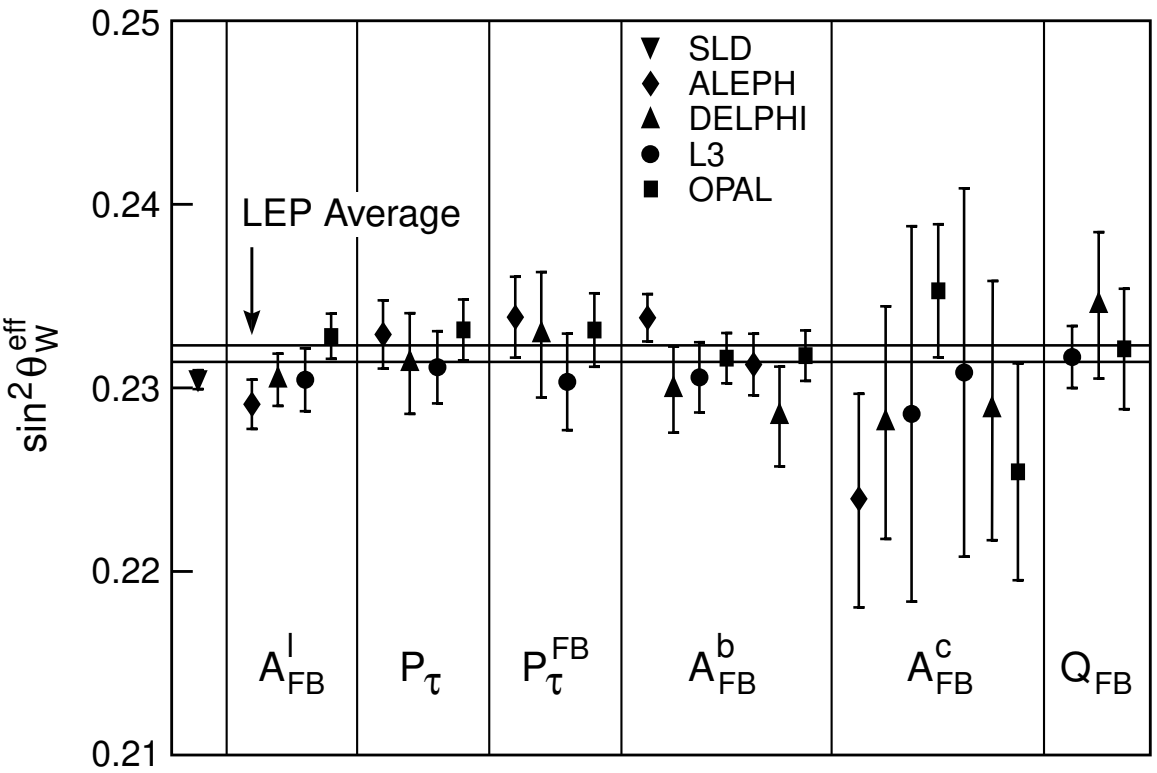

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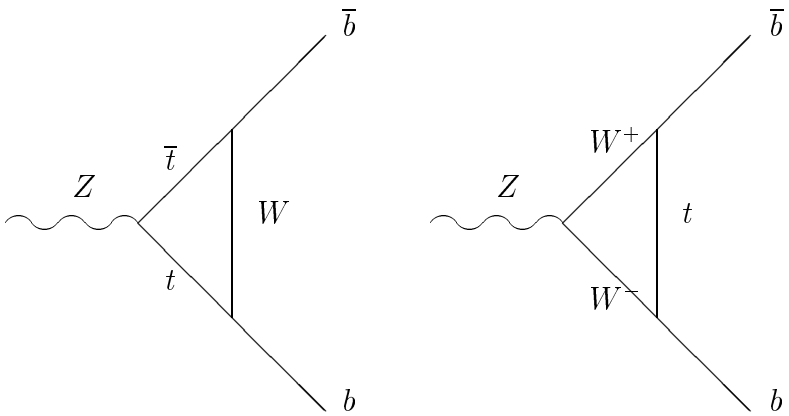
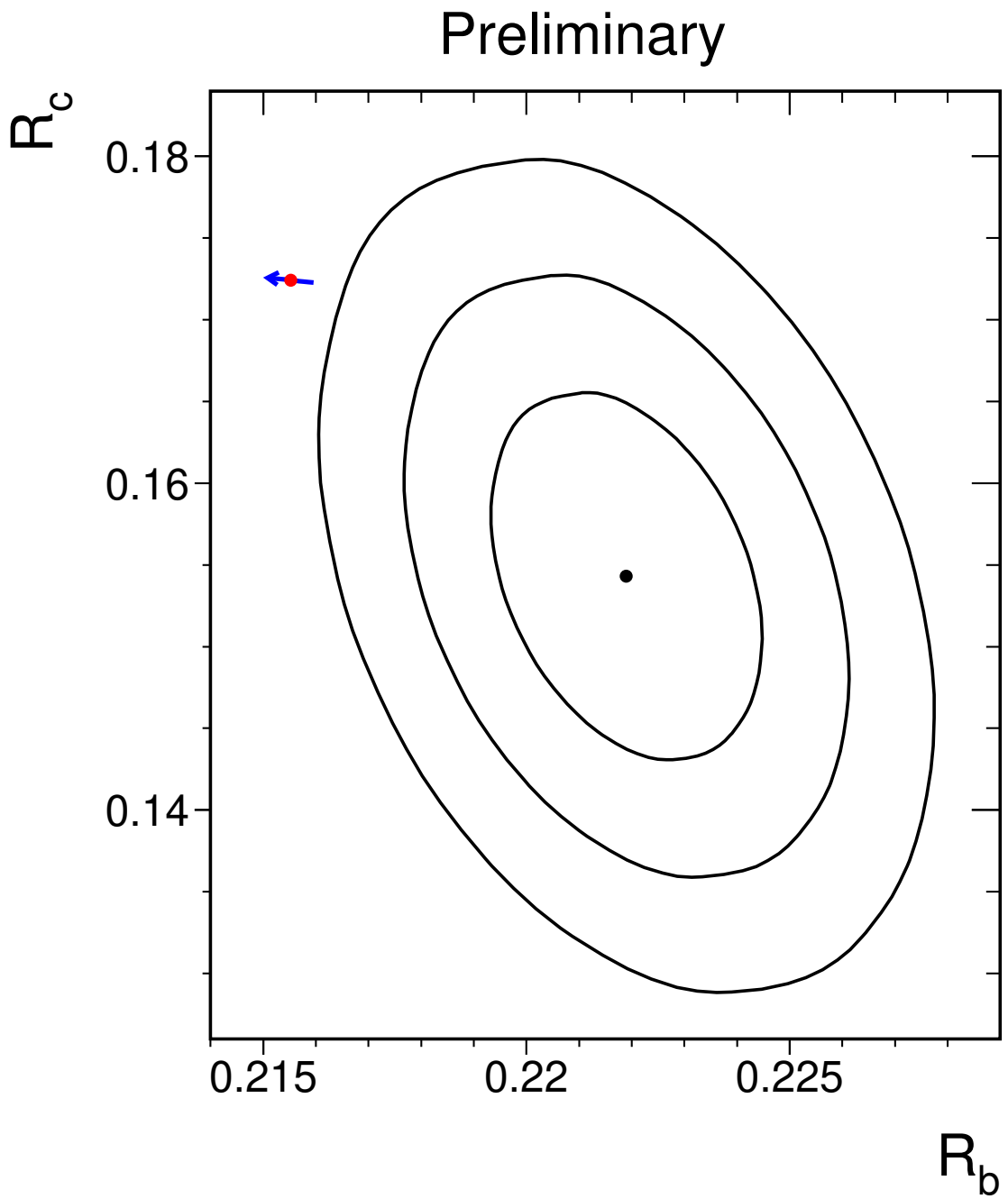


FIG. 9. Campagnari and Franklin



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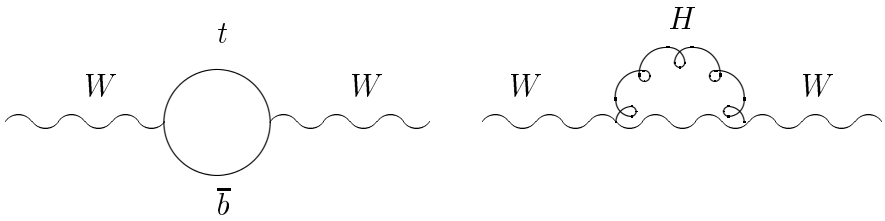


FIG. 11. Campagnari and Franklin

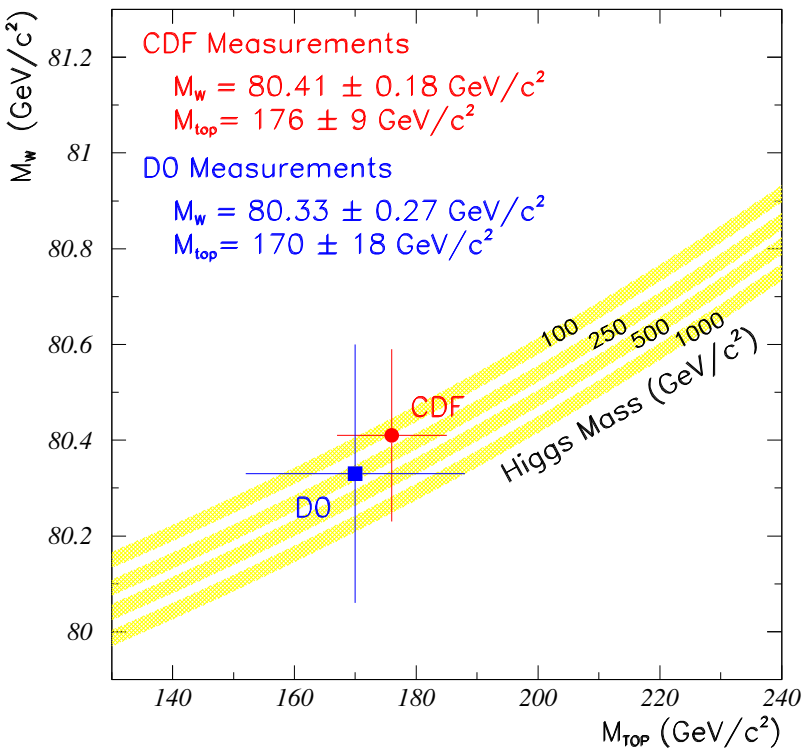


FIG. 12. Campagnari and Franklin

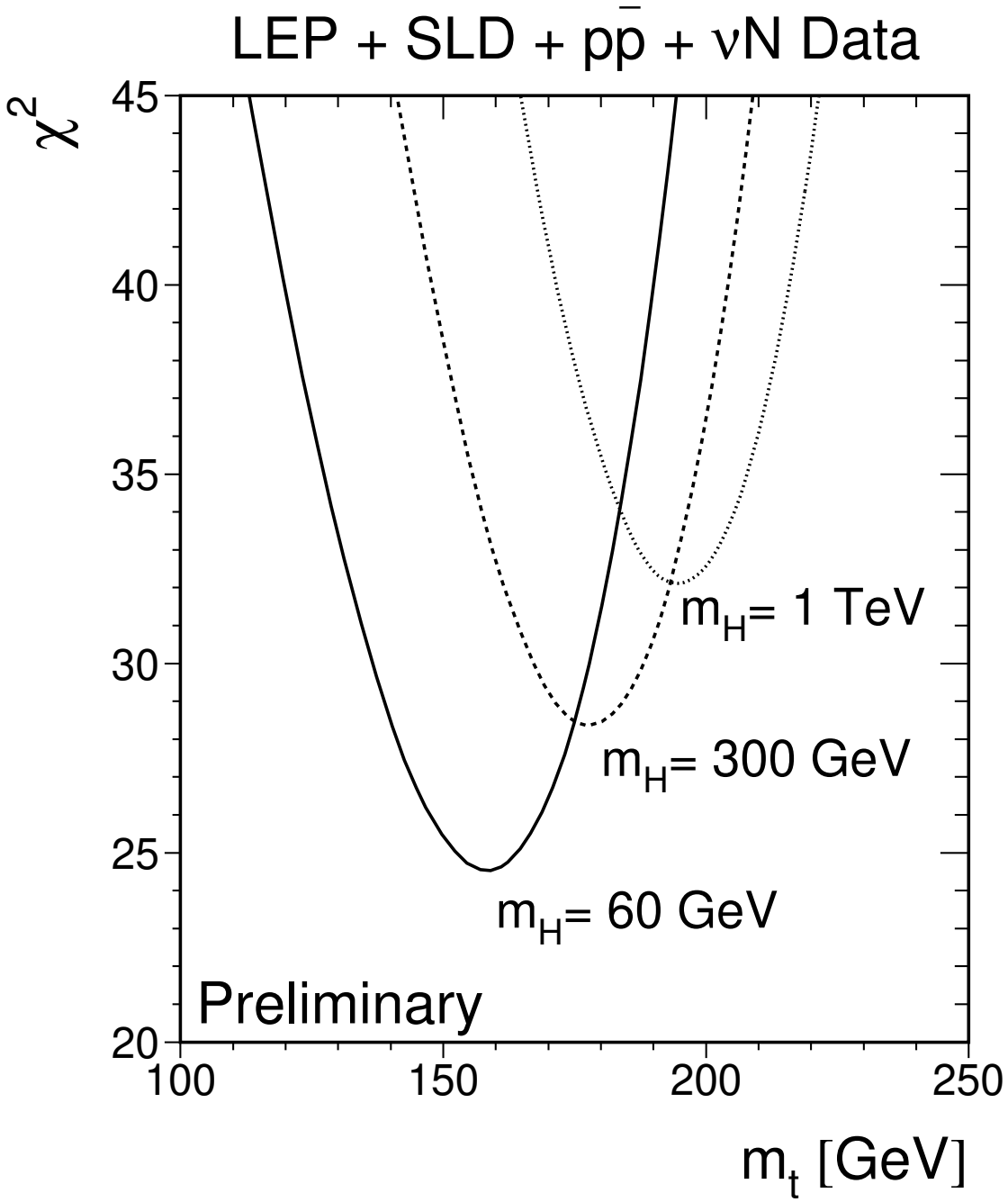


FIG. 13. Campagnari and Franklin

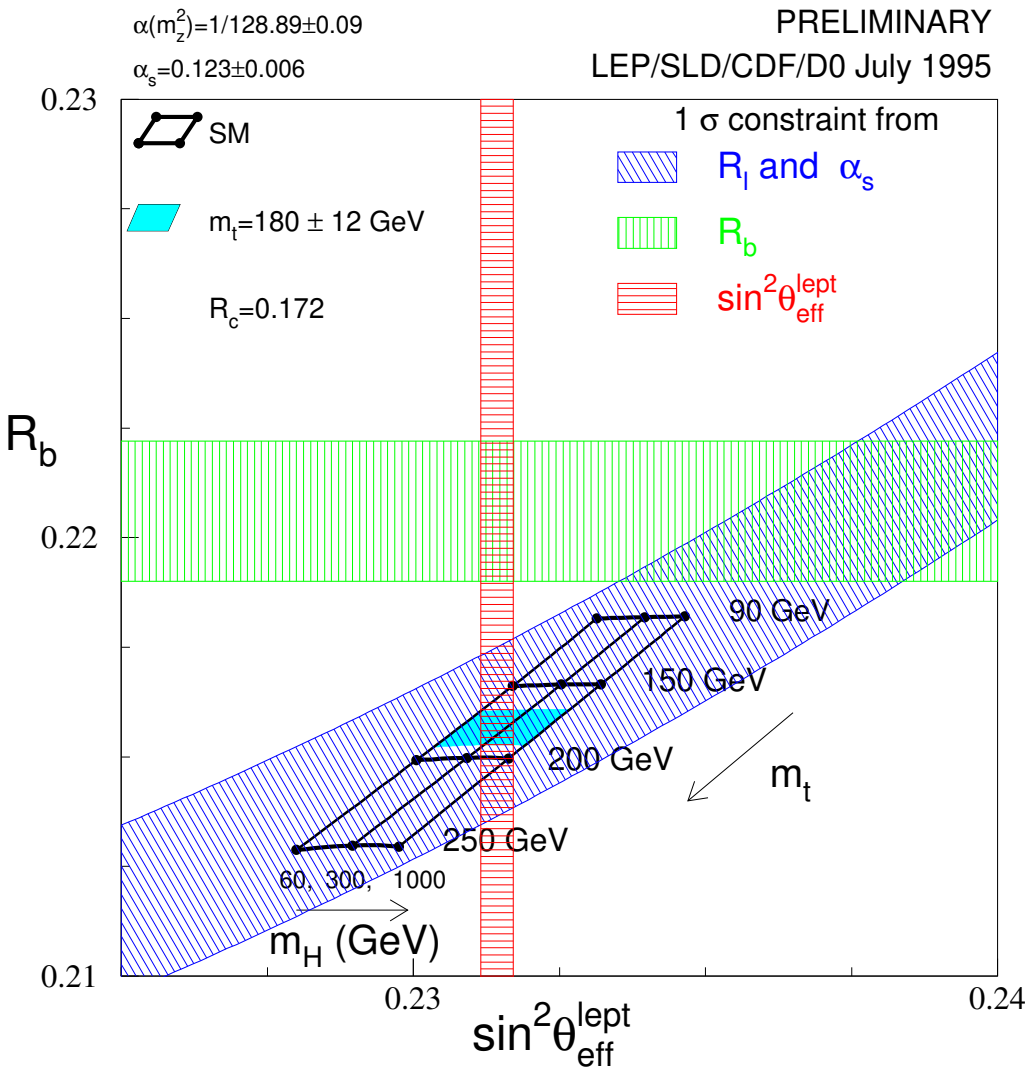


FIG. 14. Campagnari and Franklin

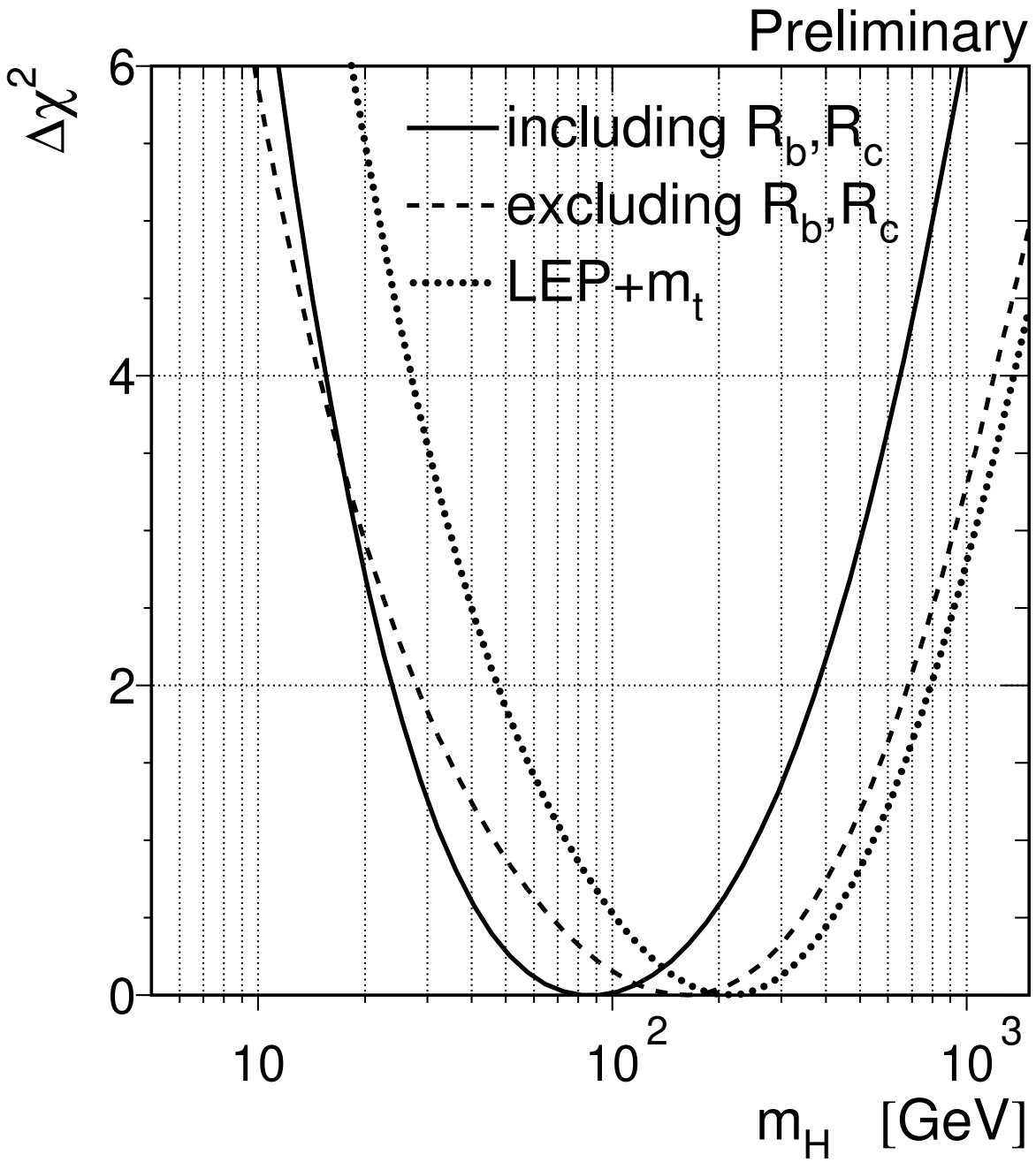
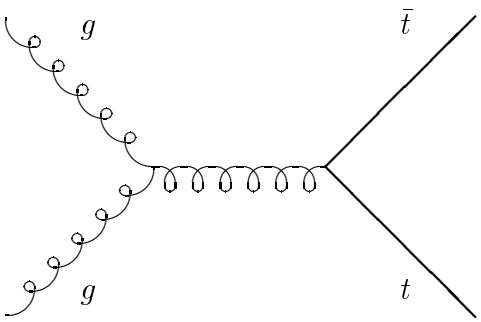
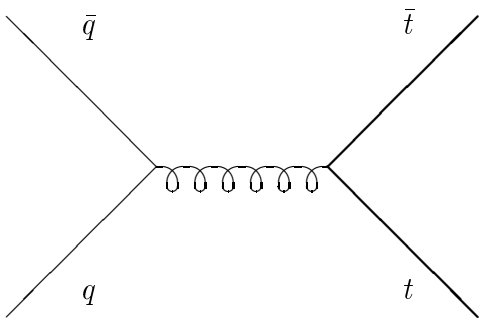
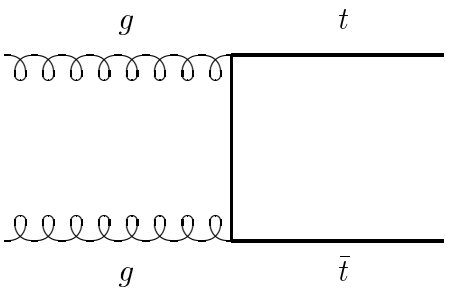


FIG. 15. Campagnari and Franklin







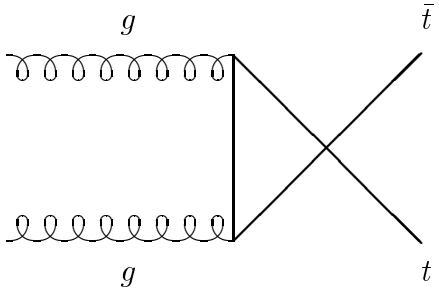


FIG. 16. Campagnari and Franklin

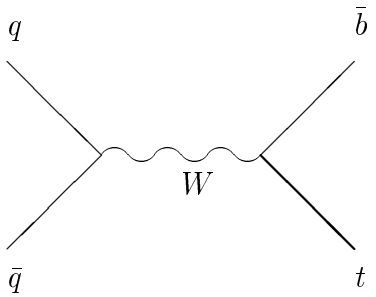


FIG. 17. Campagnari and Franklin

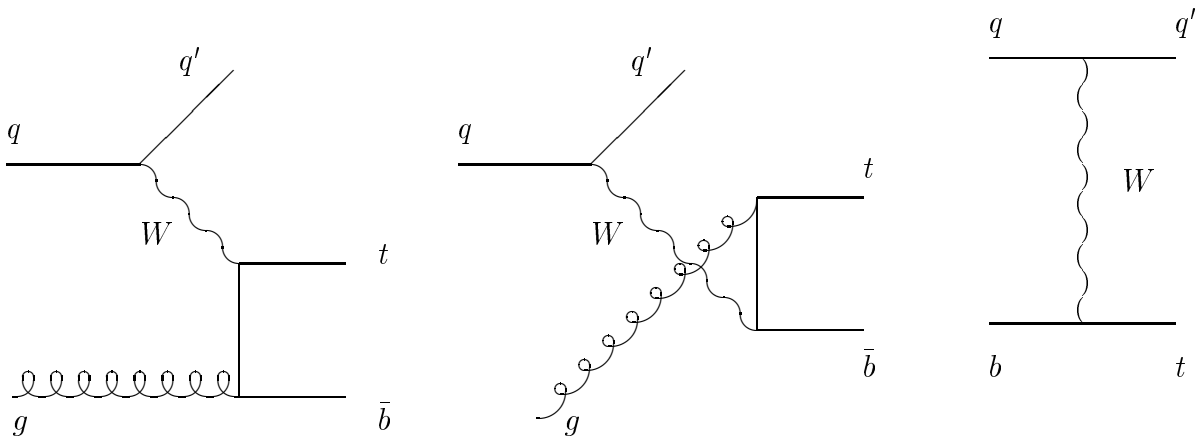


FIG. 18. Campagnari and Franklin

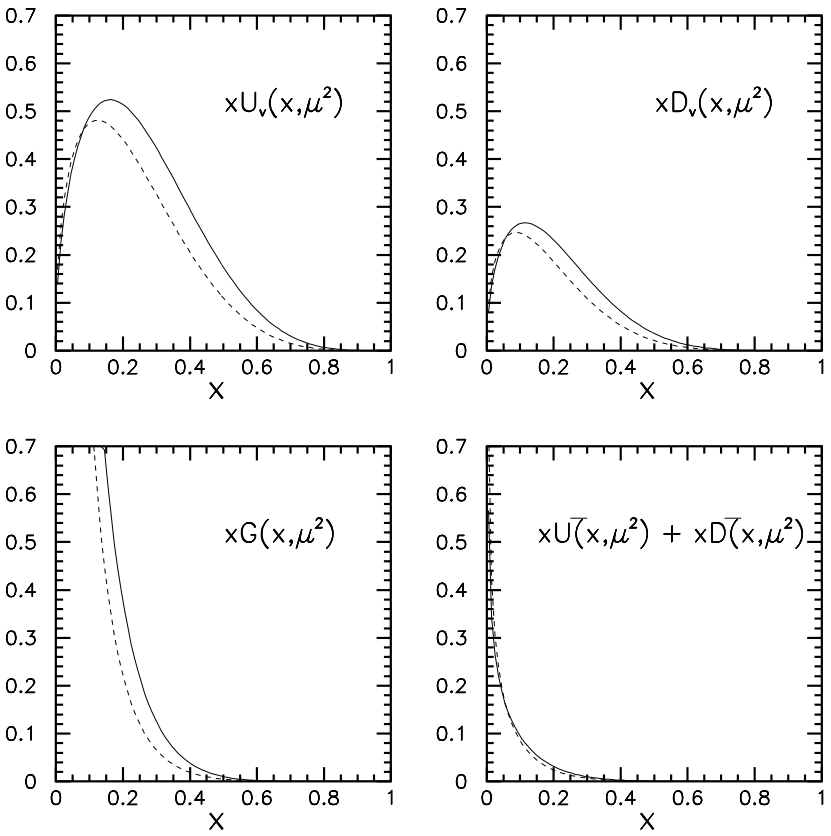


FIG. 19. Campagnari and Franklin

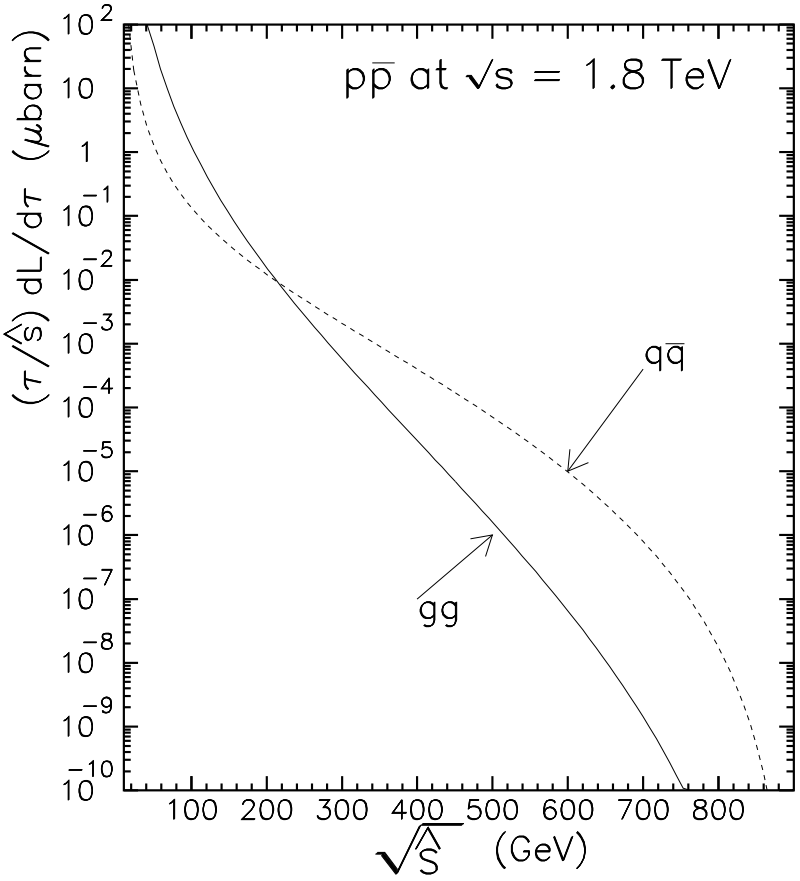


FIG. 20. Campagnari and Franklin

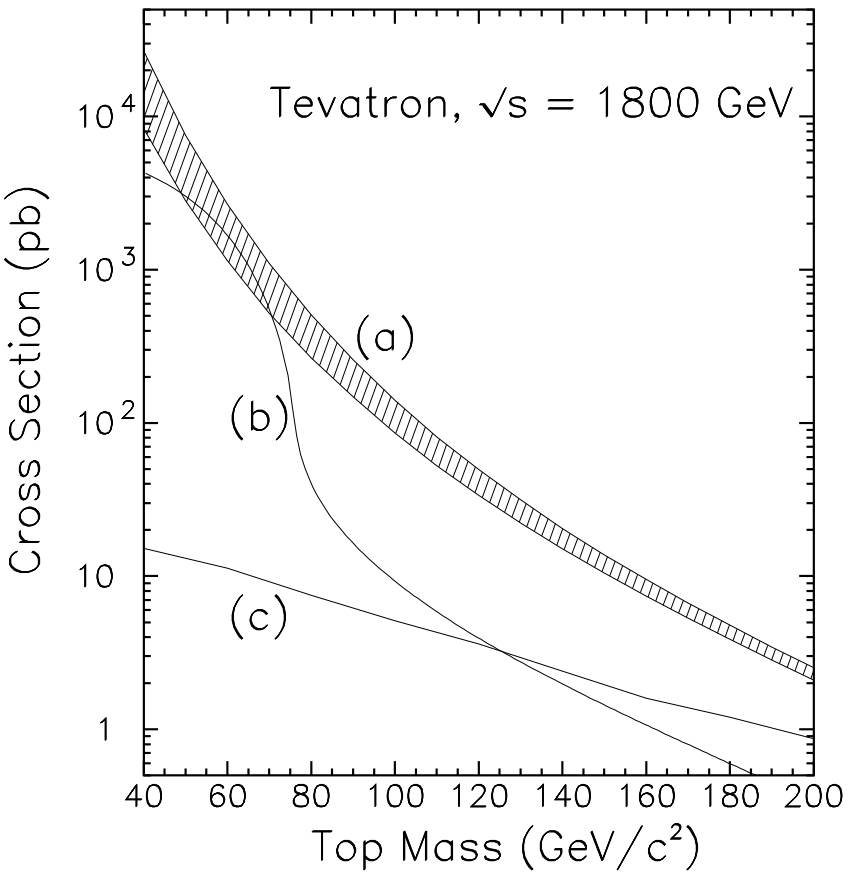


FIG. 21. Campagnari and Franklin

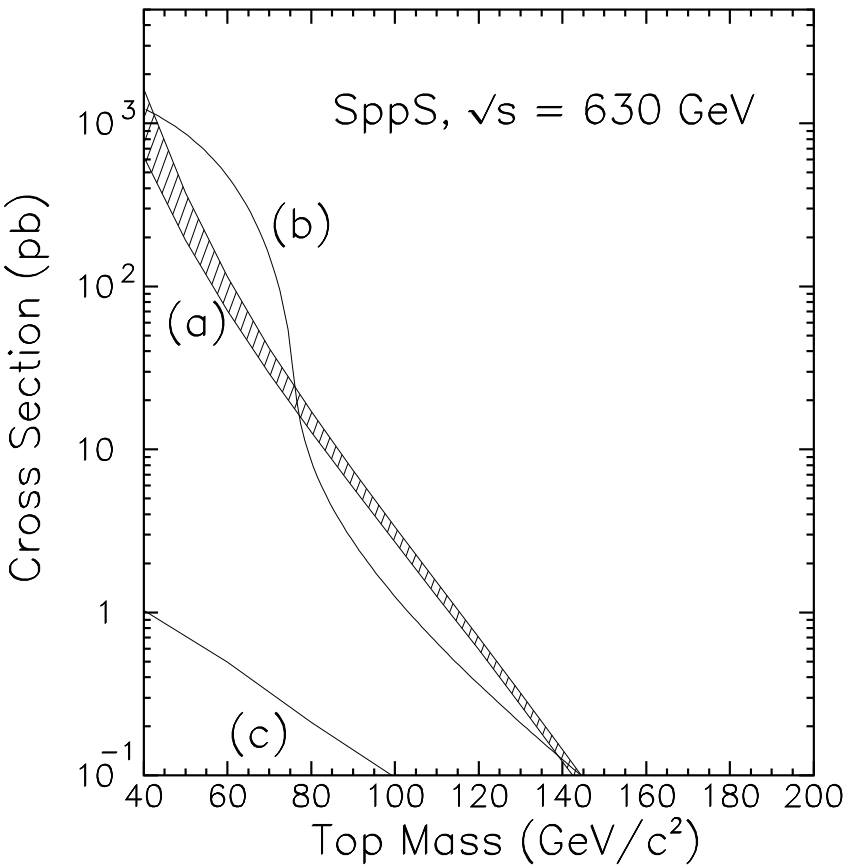


FIG. 22. Campagnari and Franklin

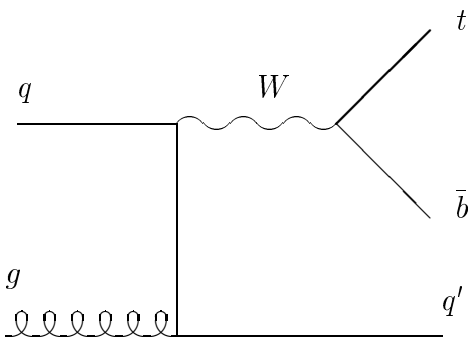


FIG. 23. Campagnari and Franklin

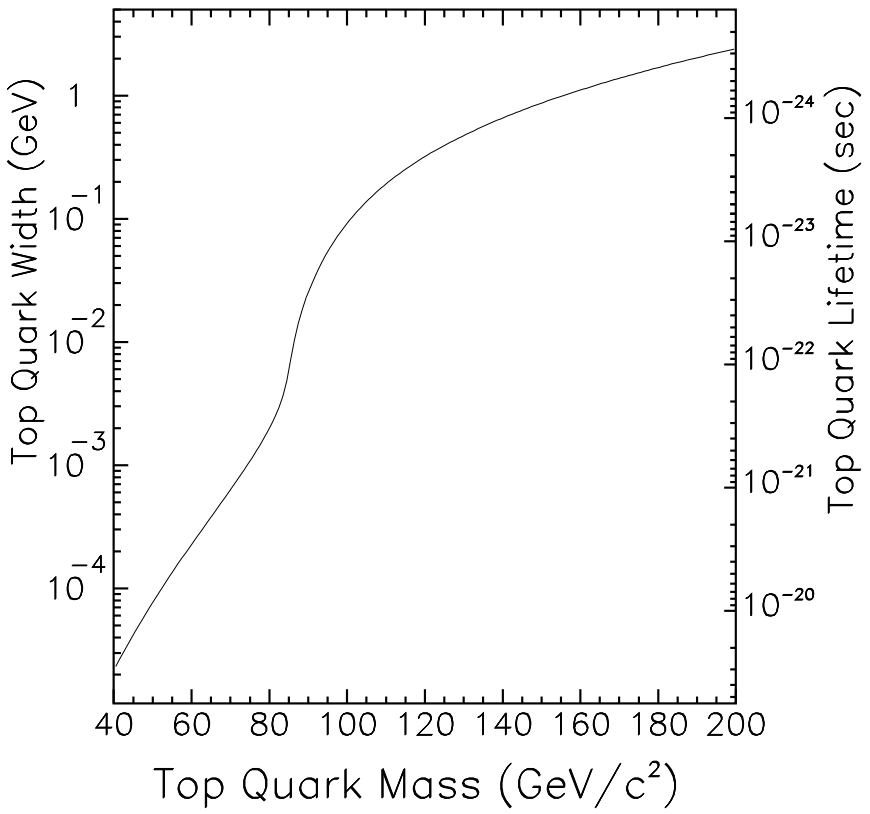


FIG. 24. Campagnari and Franklin

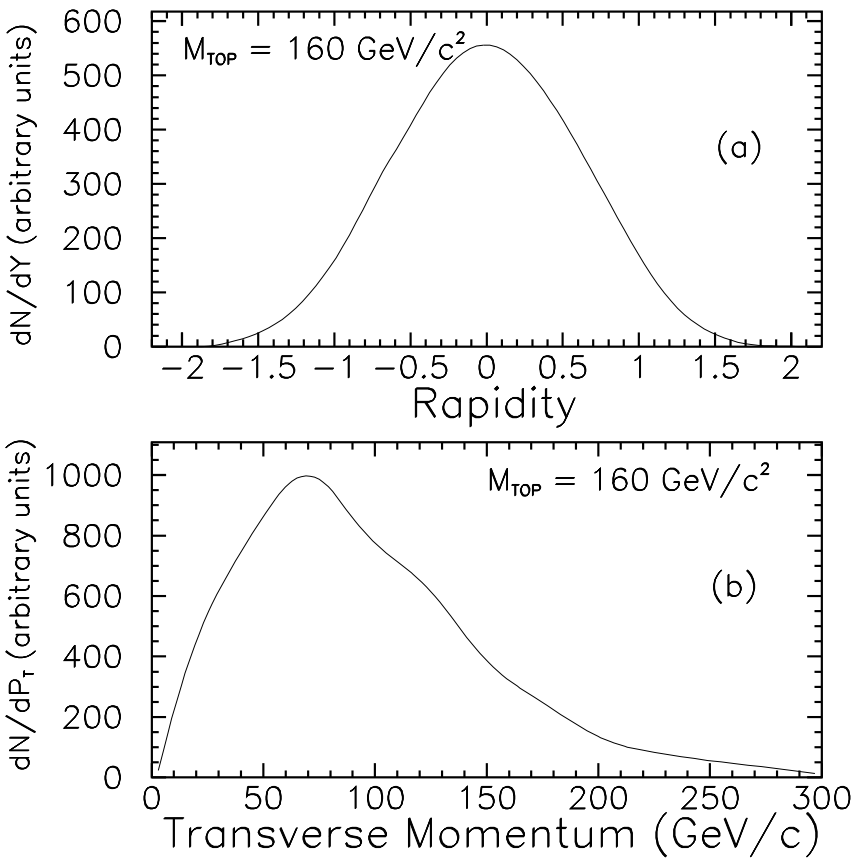


FIG. 25. Campagnari and Franklin

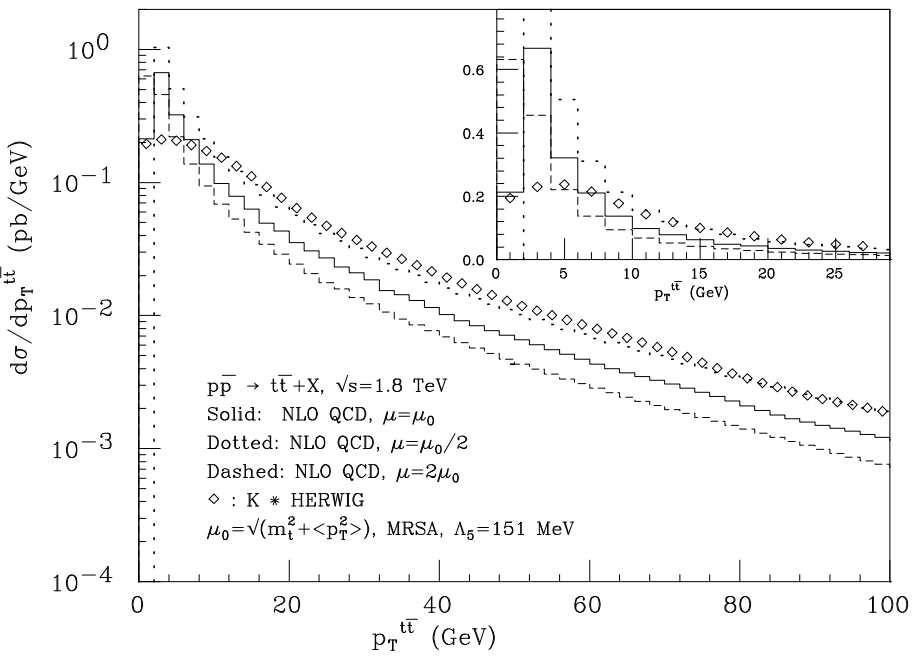


FIG. 26. Campagnari and Franklin

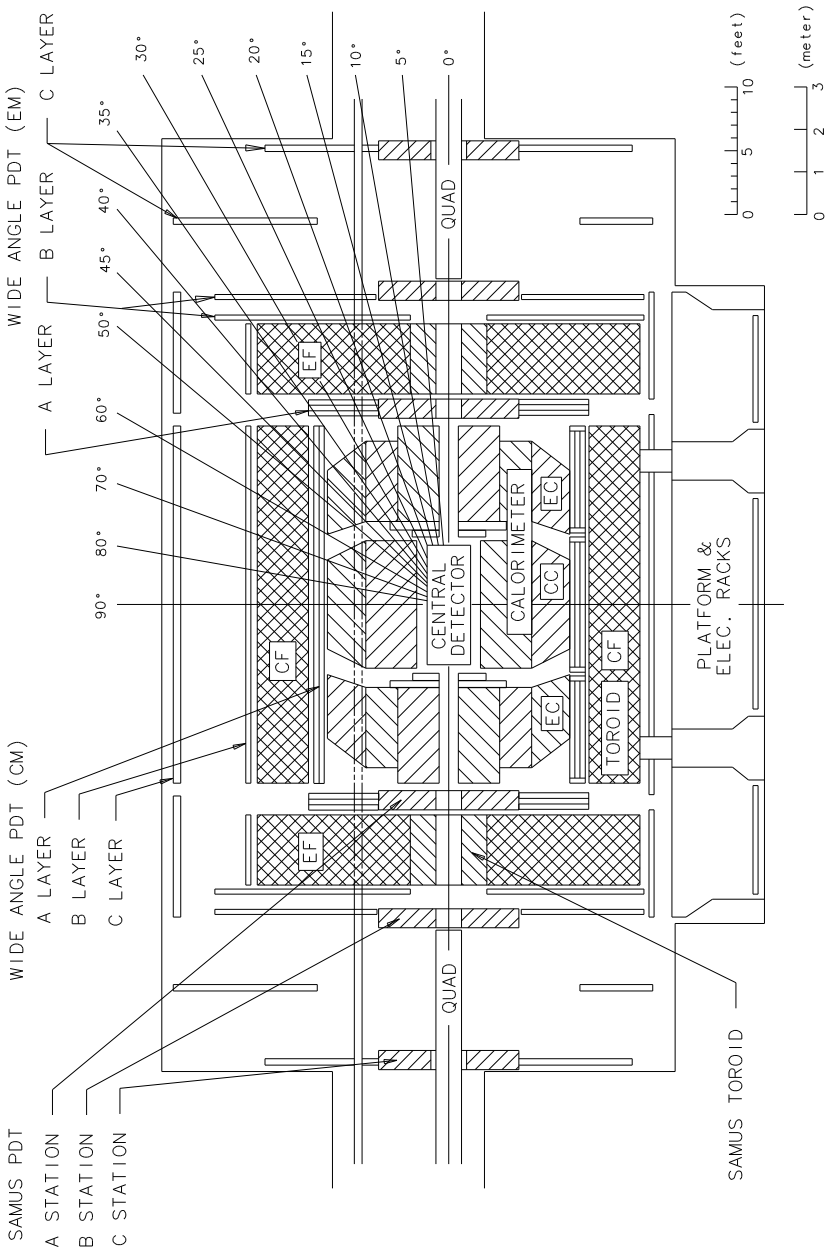


FIG. 27. Campagnari and Franklin

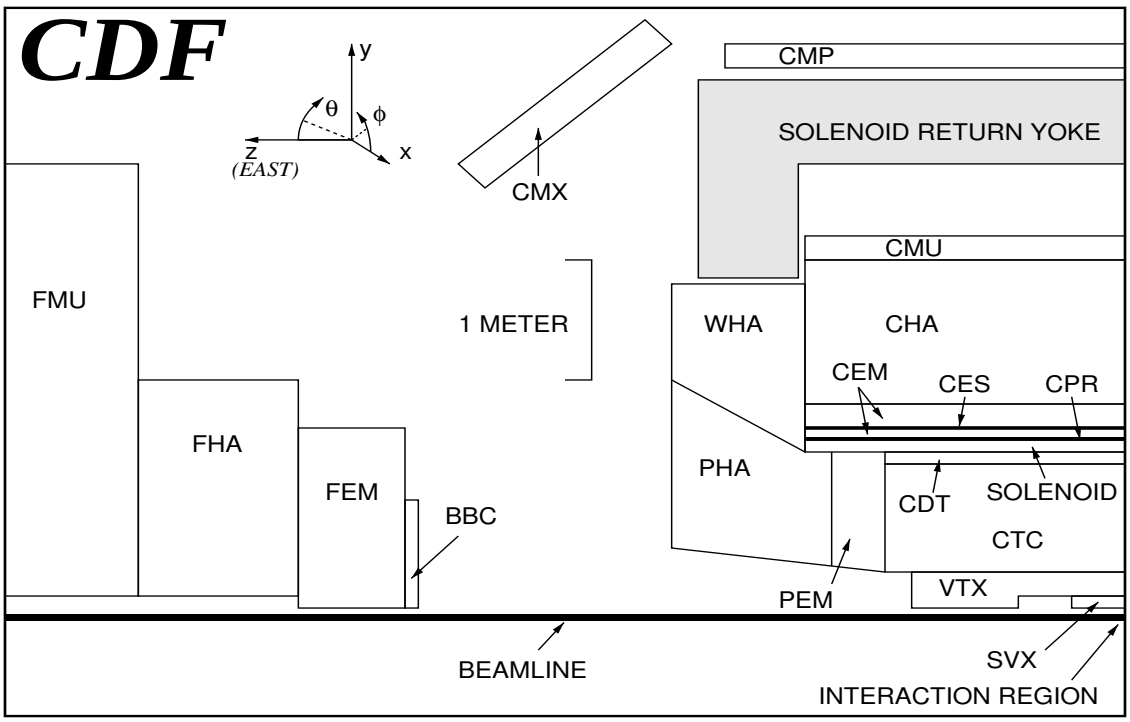


FIG. 28. Campagnari and Franklin

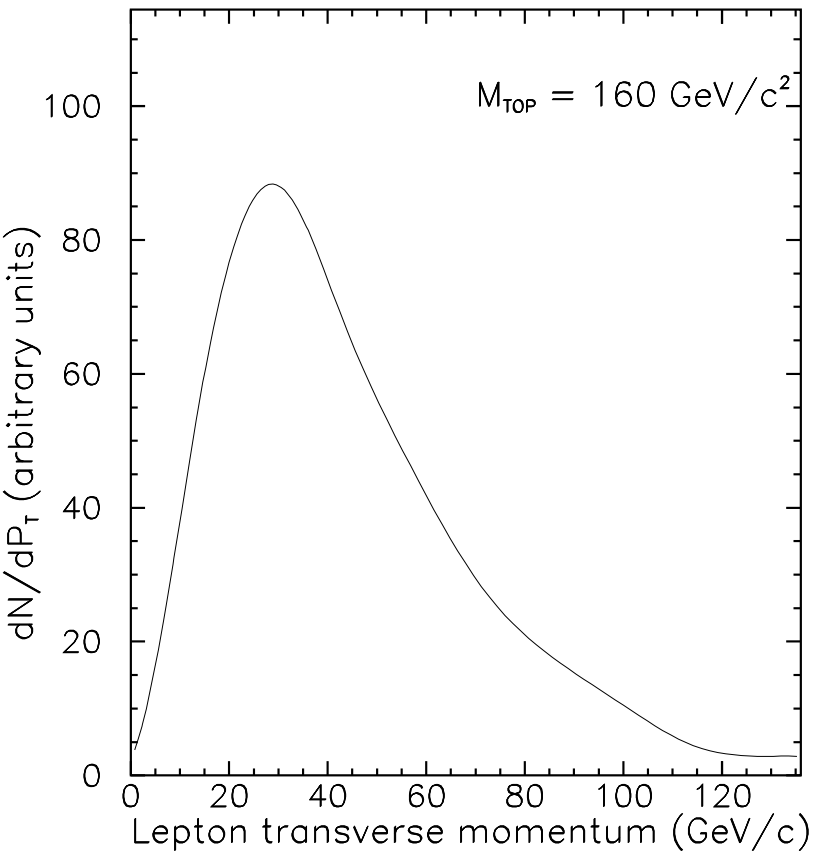


FIG. 29. Campagnari and Franklin

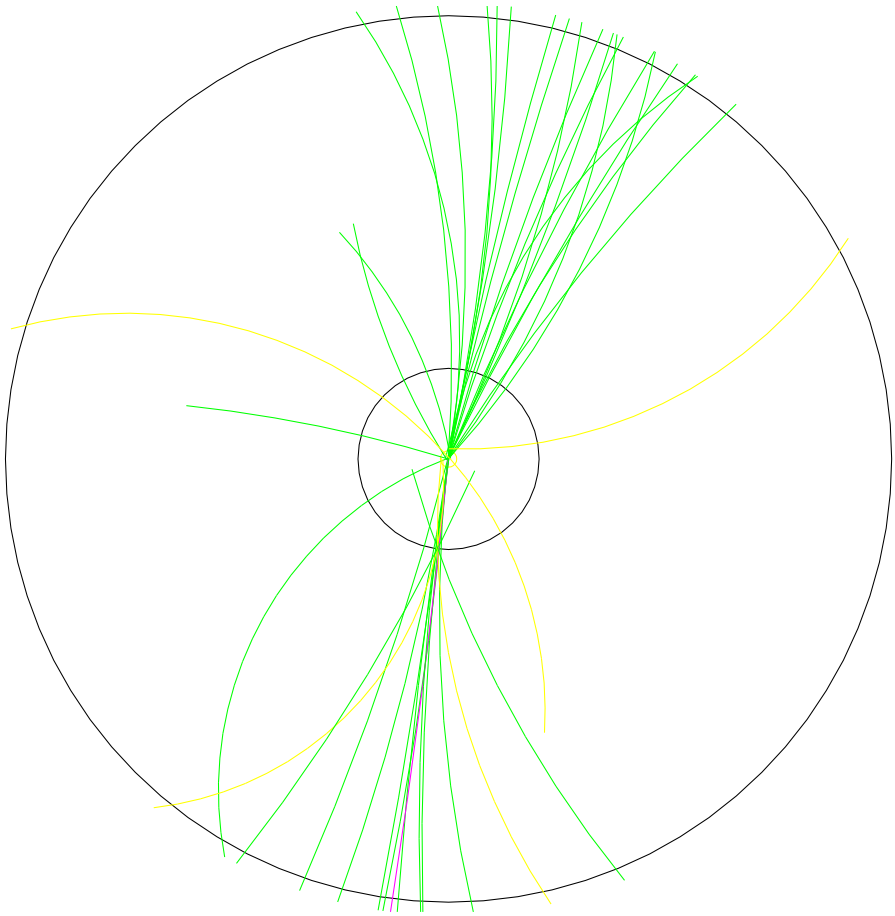


FIG. 30. Campagnari and Franklin

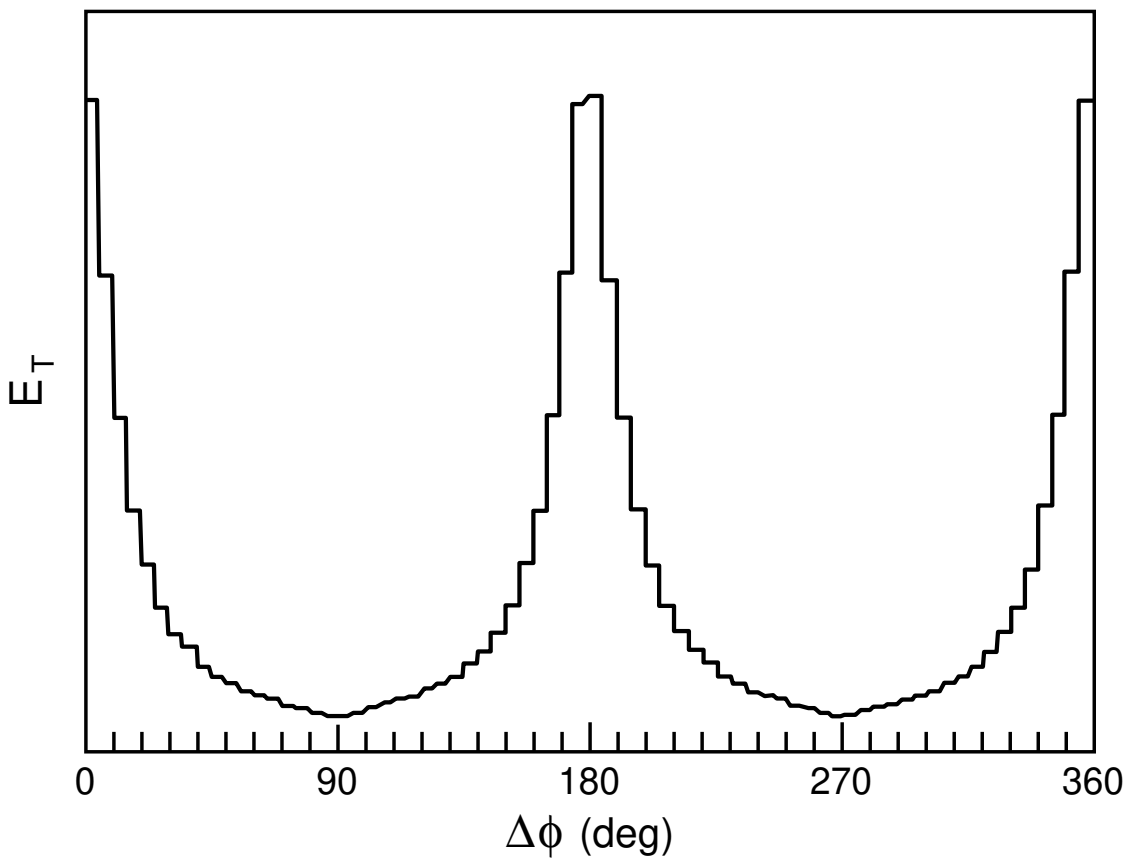


FIG. 31. Campagnari and Franklin

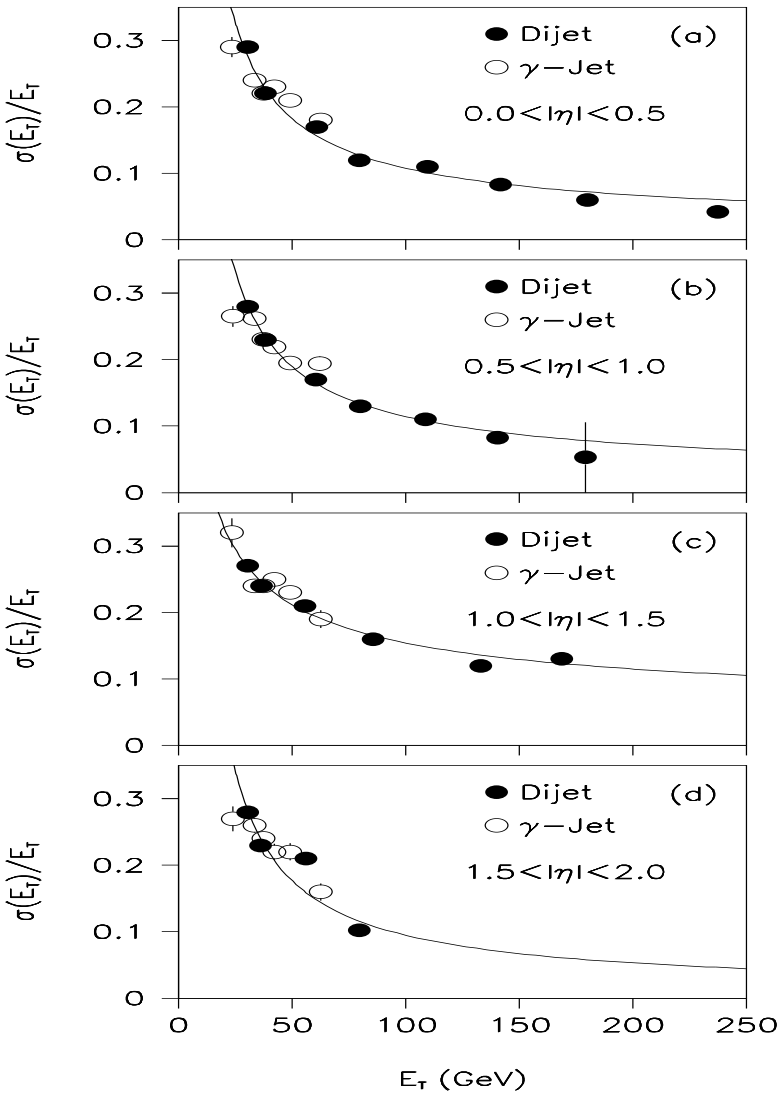


FIG. 32. Campagnari and Franklin

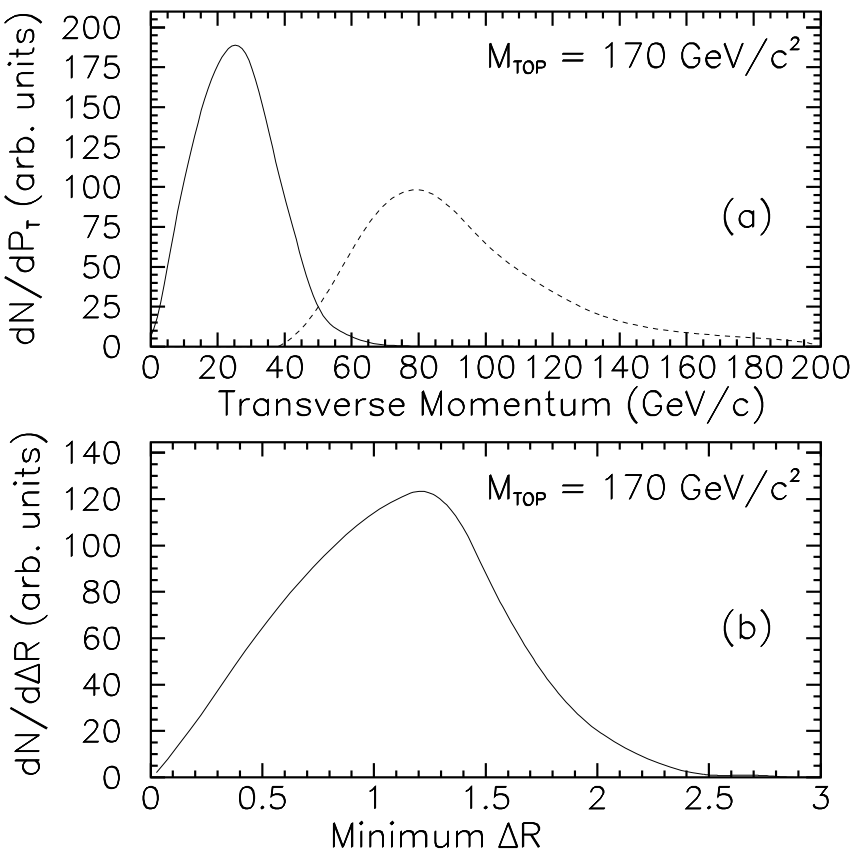


FIG. 33. Campagnari and Franklin

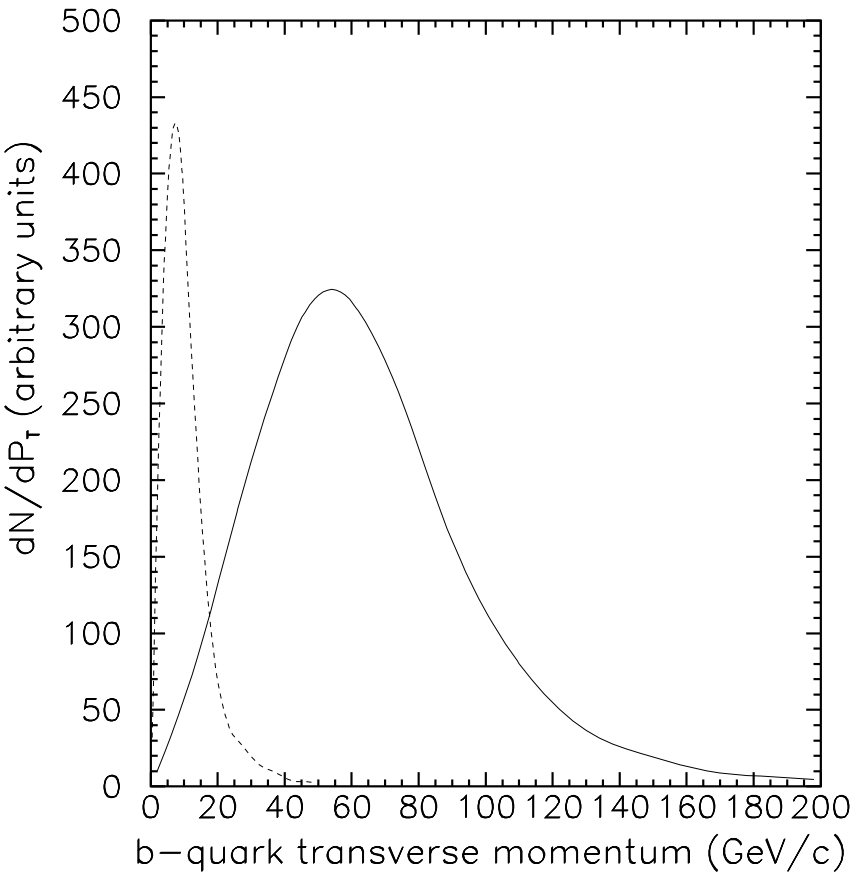
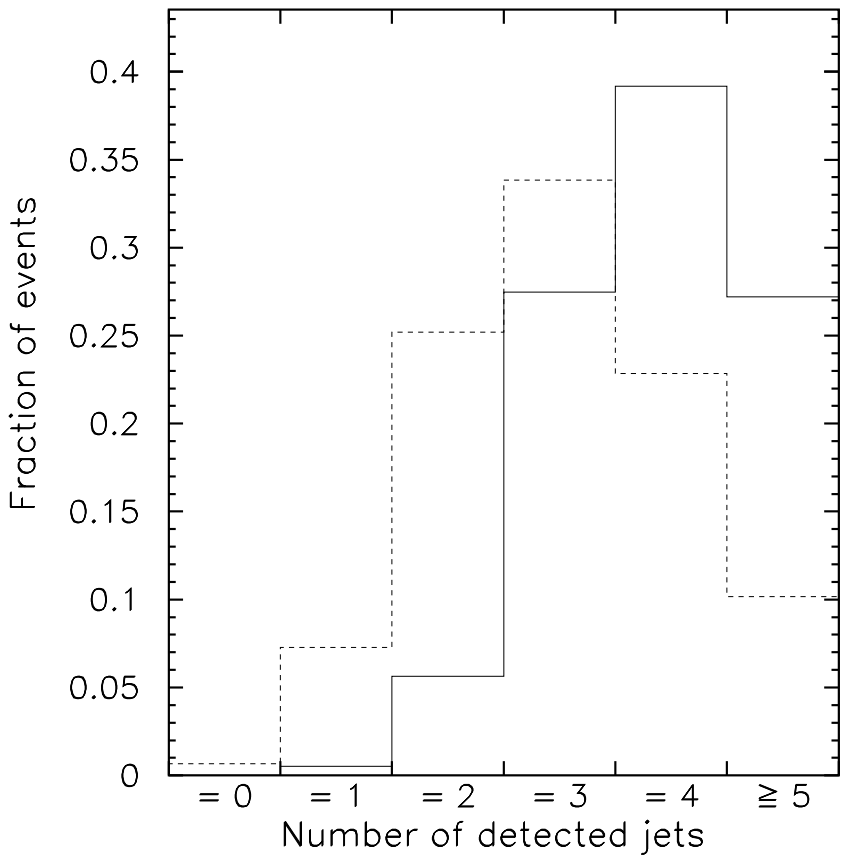


FIG. 34. Campagnari and Franklin



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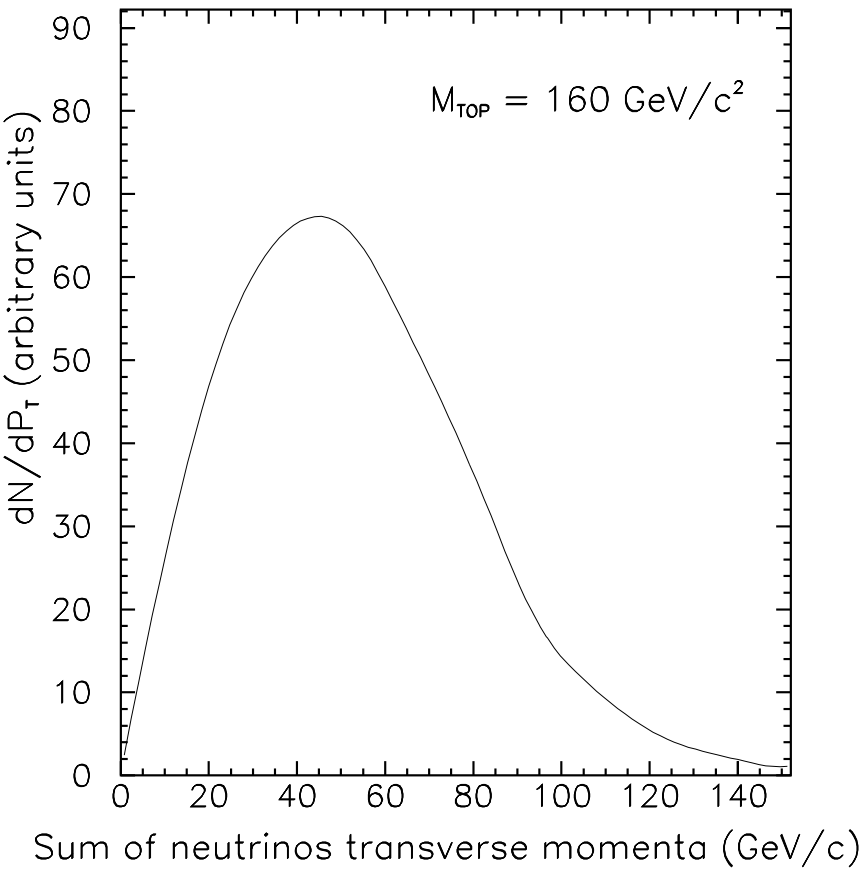


FIG. 36. Campagnari and Franklin

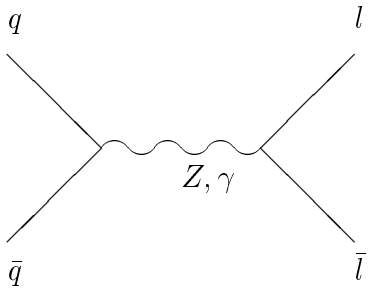


FIG. 37. Campagnari and Franklin

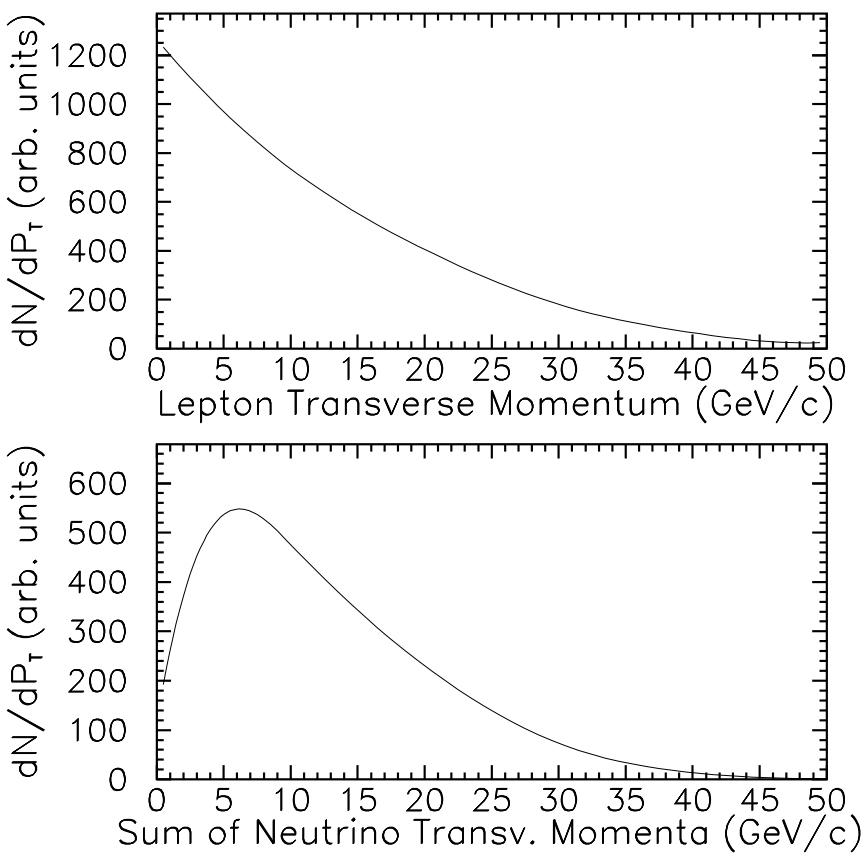


FIG. 38. Campagnari and Franklin

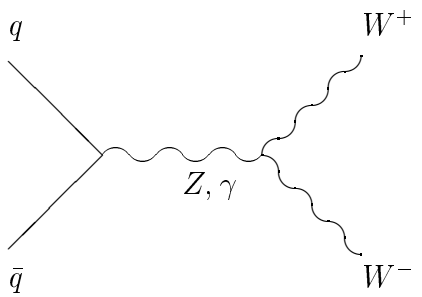


FIG. 39. Campagnari and Franklin

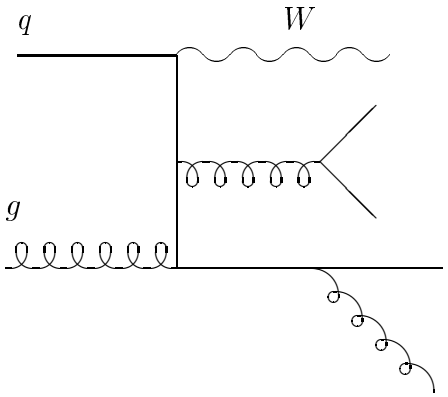


FIG. 40. Campagnari and Franklin

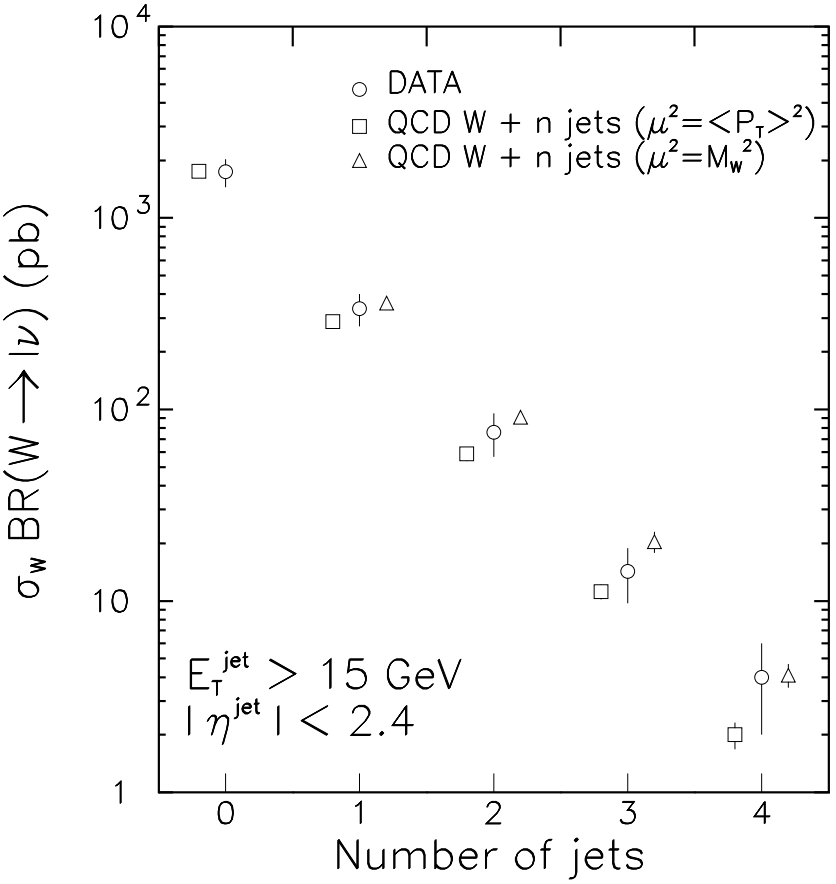


FIG. 41. Campagnari and Franklin

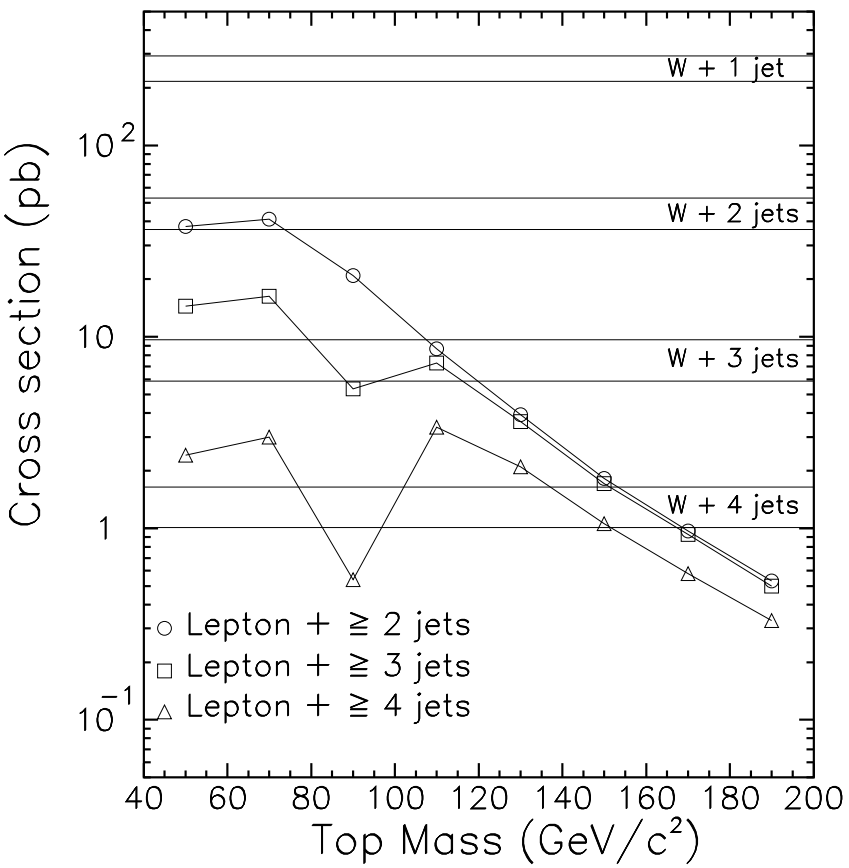


FIG. 42. Campagnari and Franklin

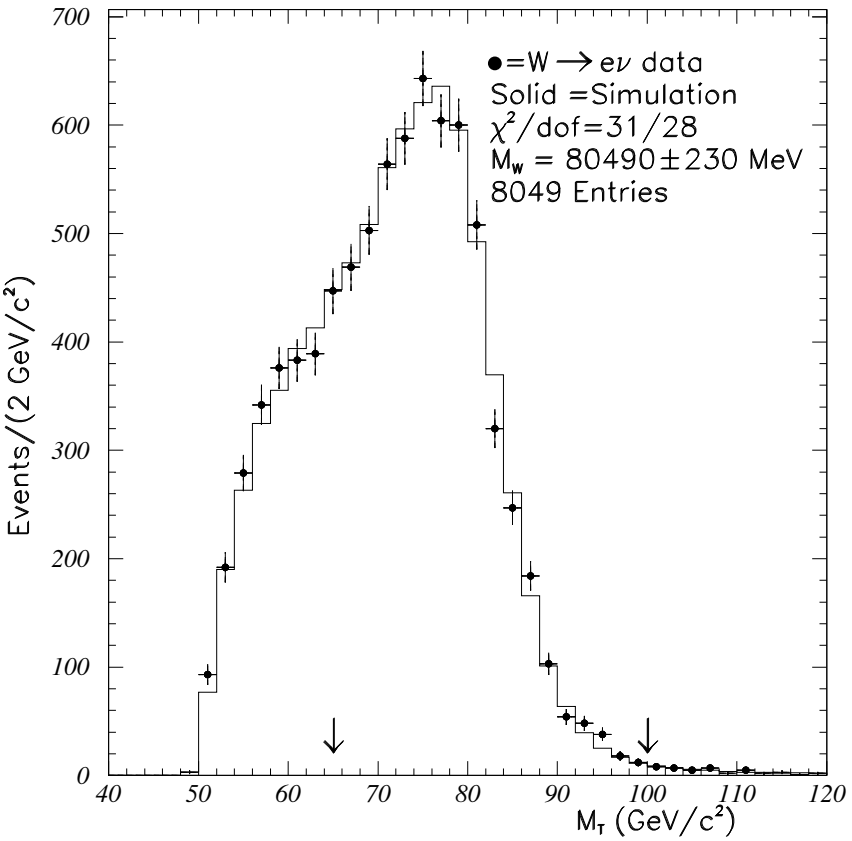


FIG. 43. Campagnari and Franklin

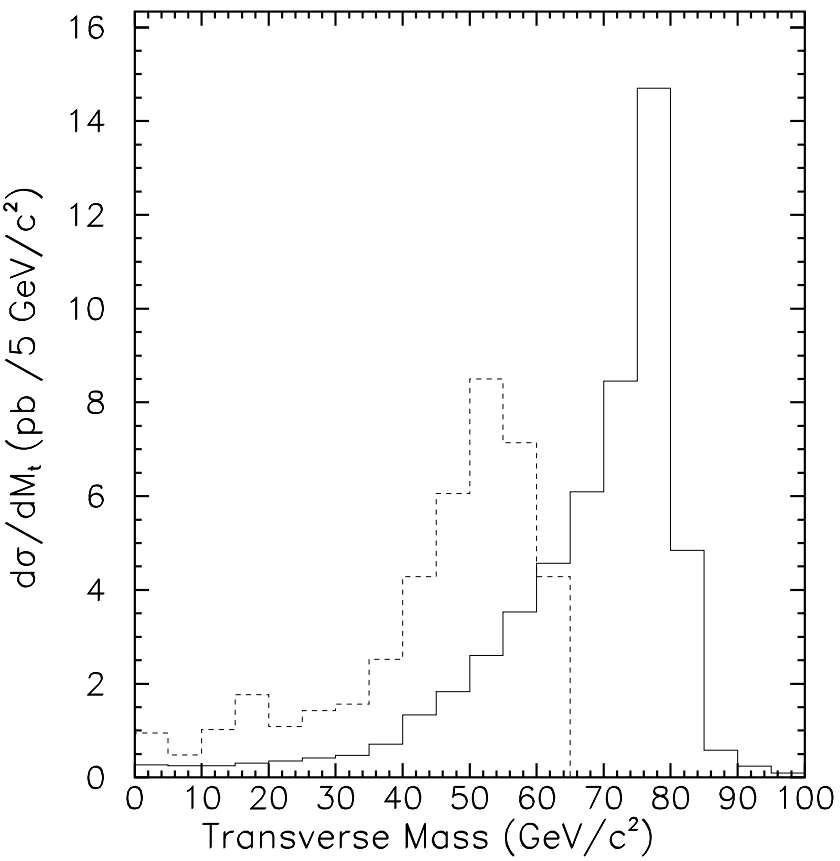


FIG. 44. Campagnari and Franklin

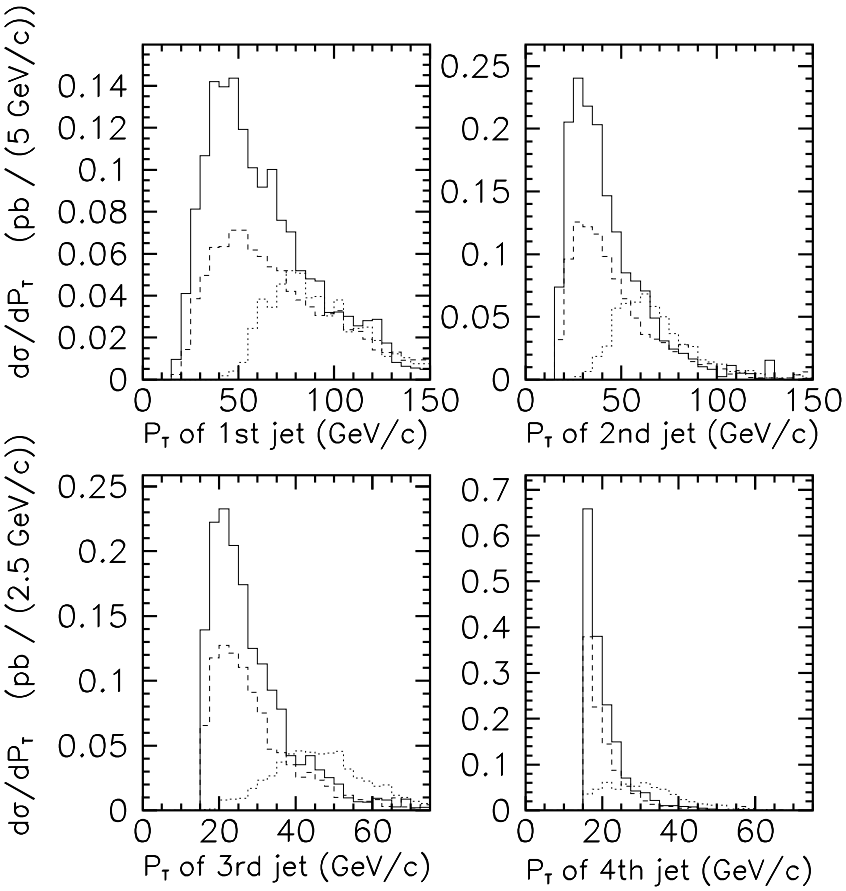


FIG. 45. Campagnari and Franklin

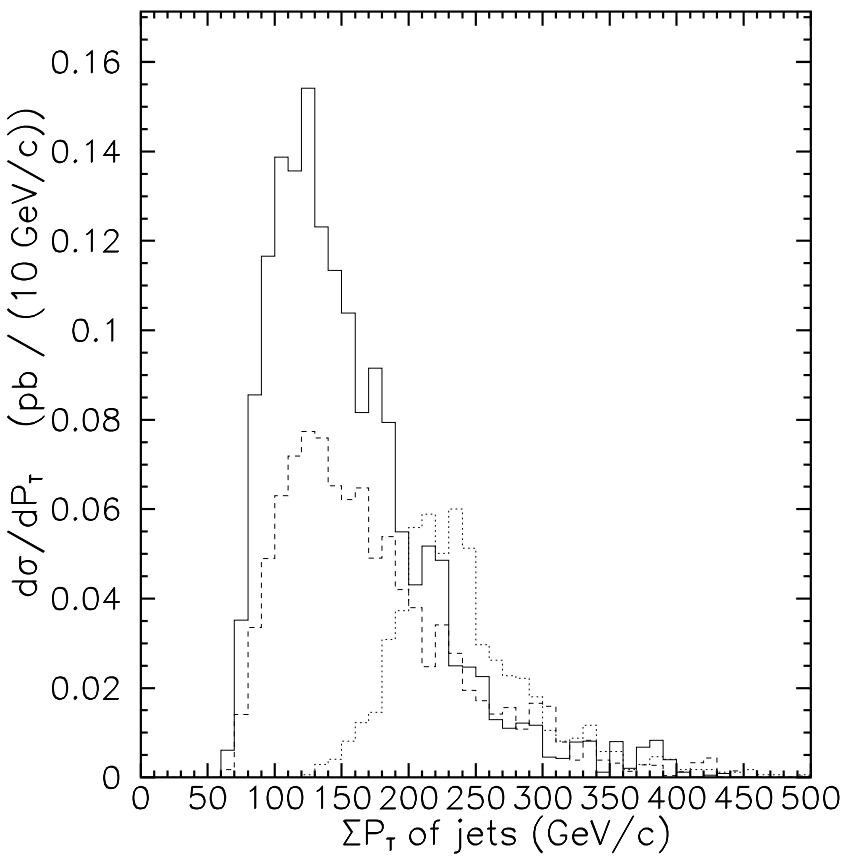


FIG. 46. Campagnari and Franklin

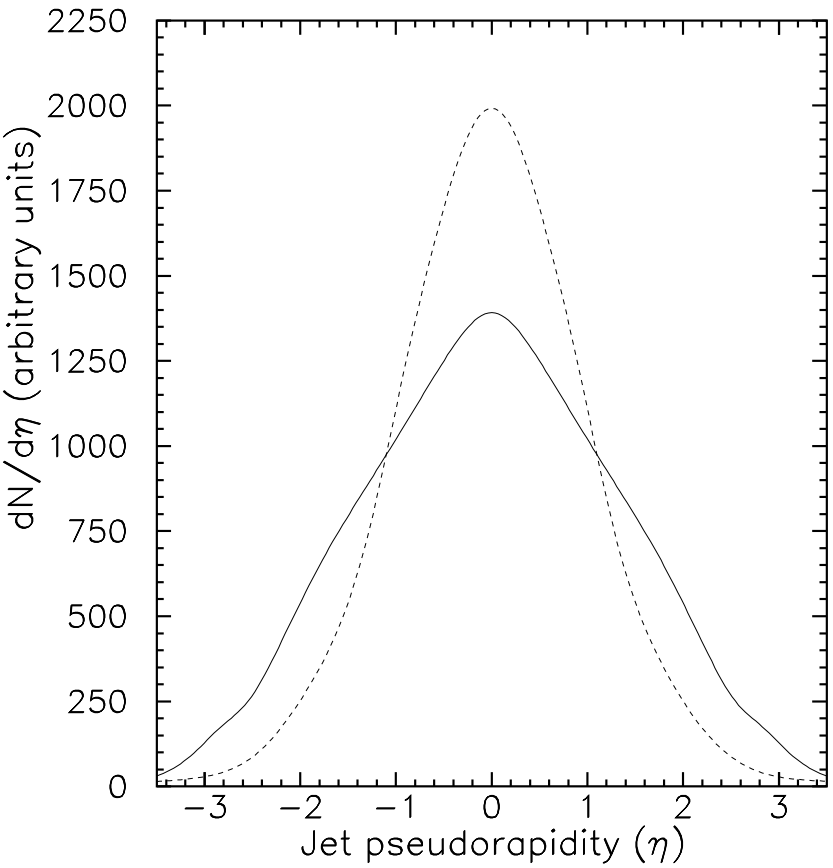


FIG. 47. Campagnari and Franklin

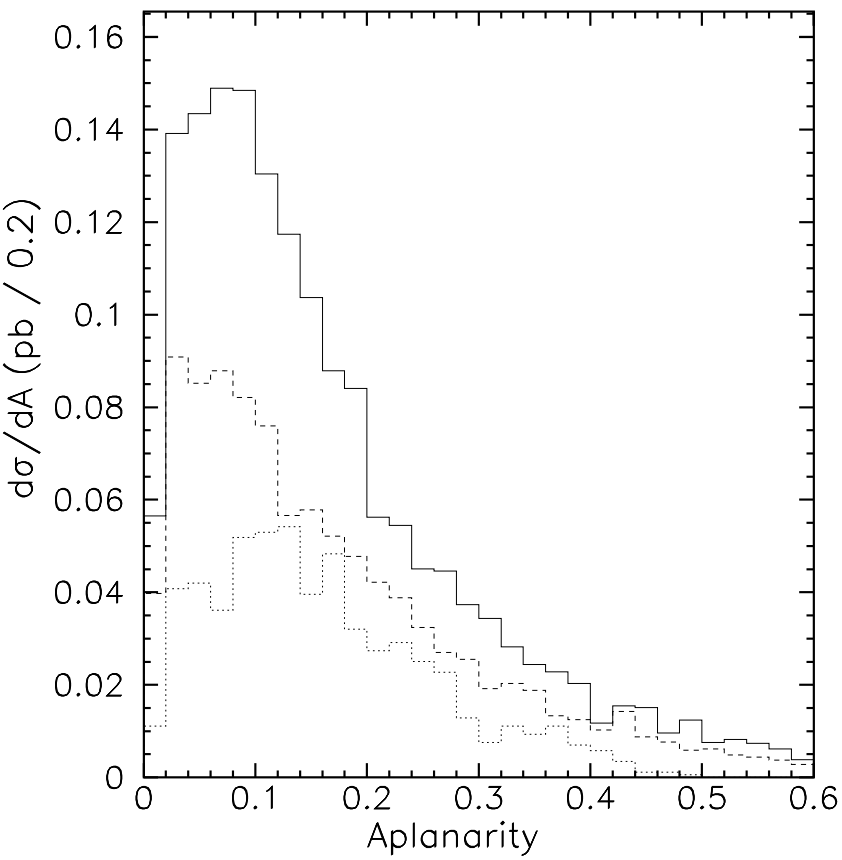


FIG. 48. Campagnari and Franklin

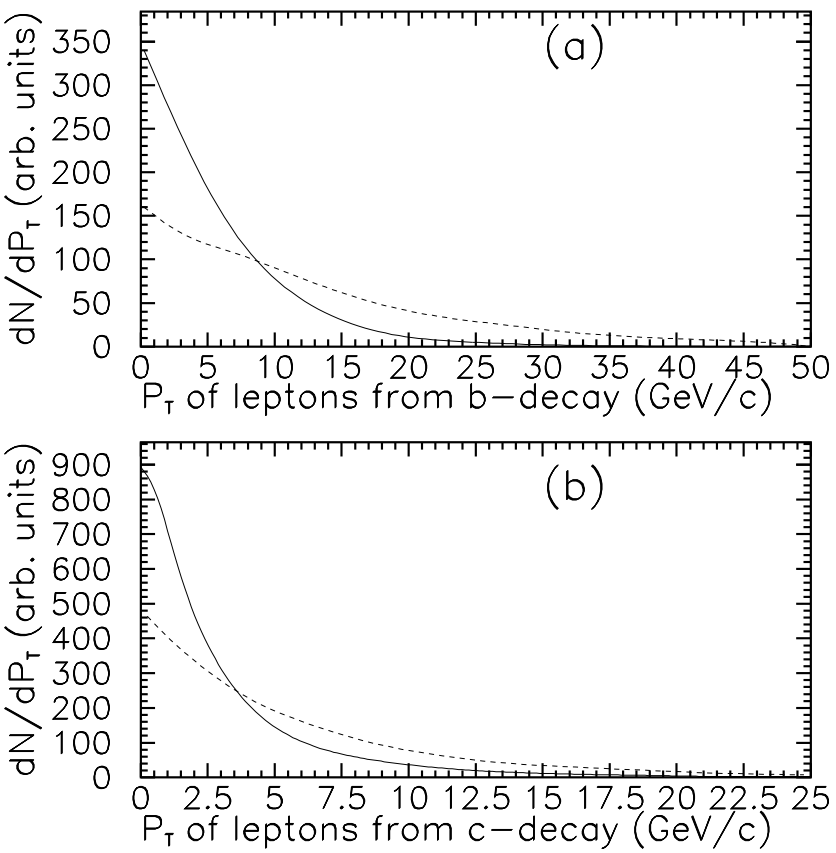


FIG. 49. Campagnari and Franklin

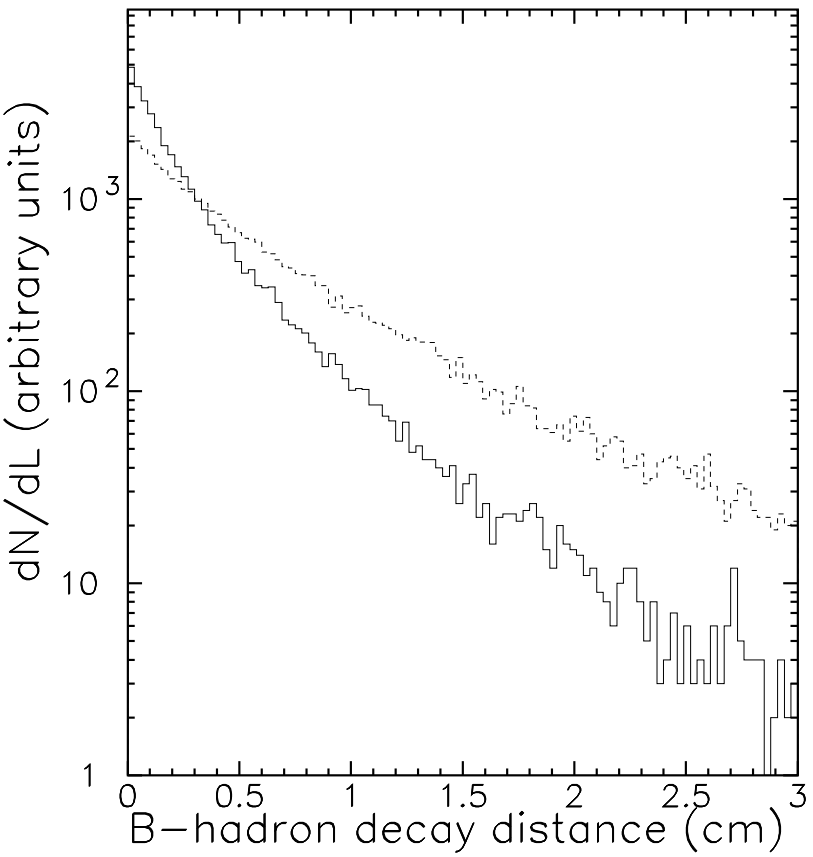


FIG. 50. Campagnari and Franklin

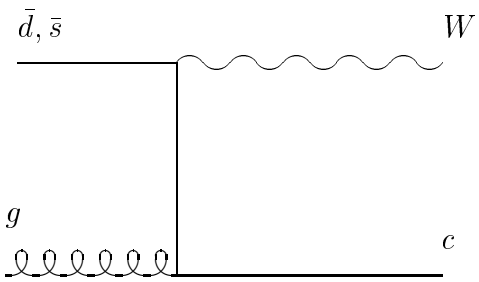


FIG. 51. Campagnari and Franklin

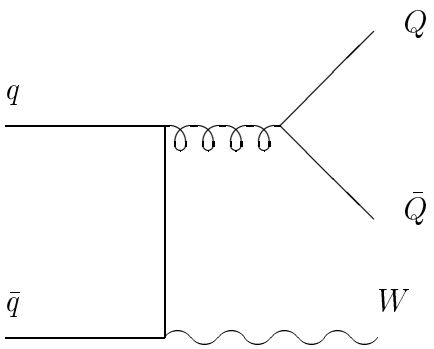


FIG. 52. Campagnari and Franklin

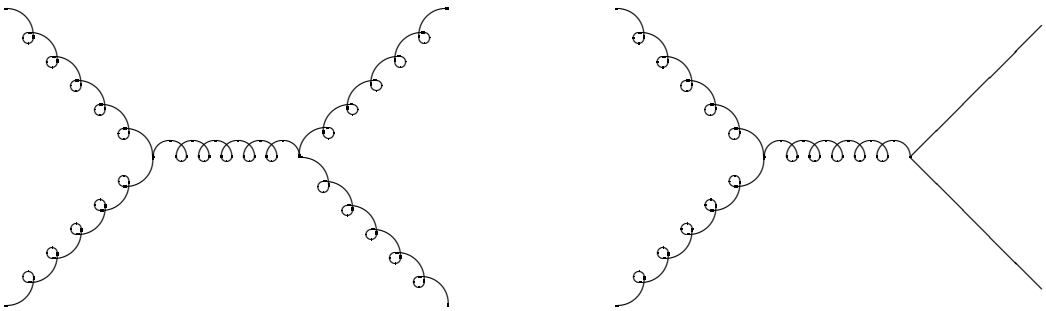


FIG. 53. Campagnari and Franklin

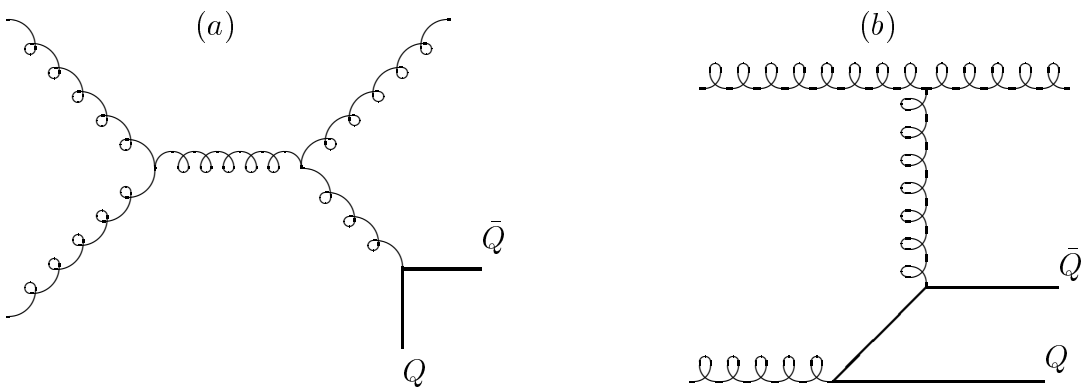


FIG. 54. Campagnari and Franklin

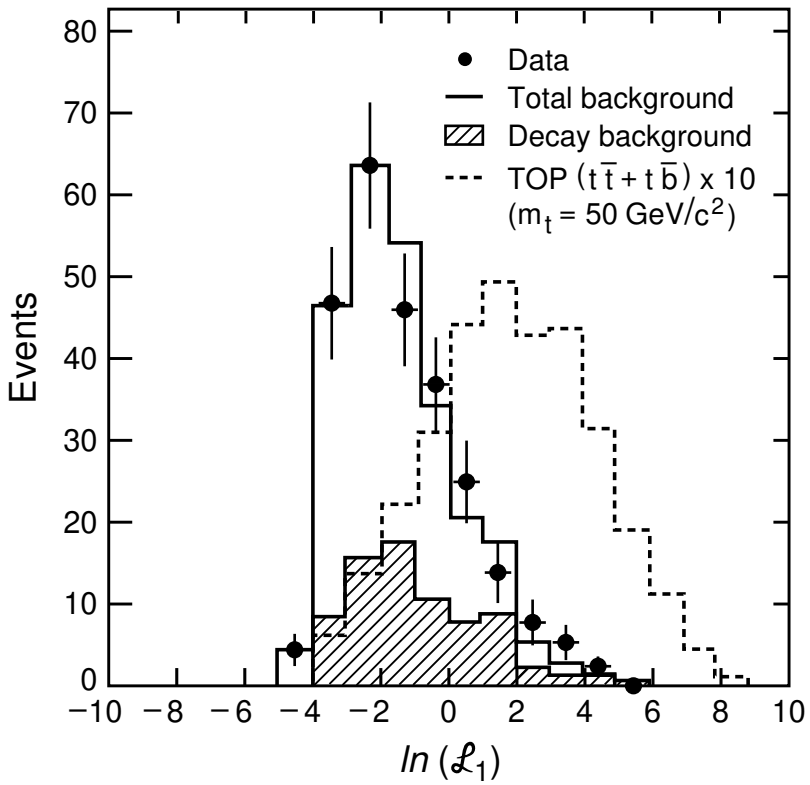


FIG. 55. Campagnari and Franklin

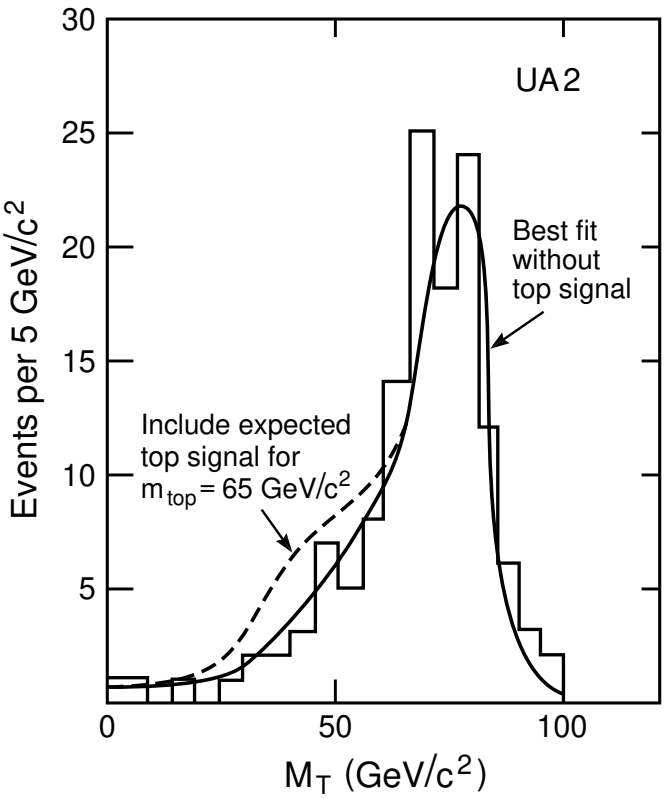


FIG. 56. Campagnari and Franklin

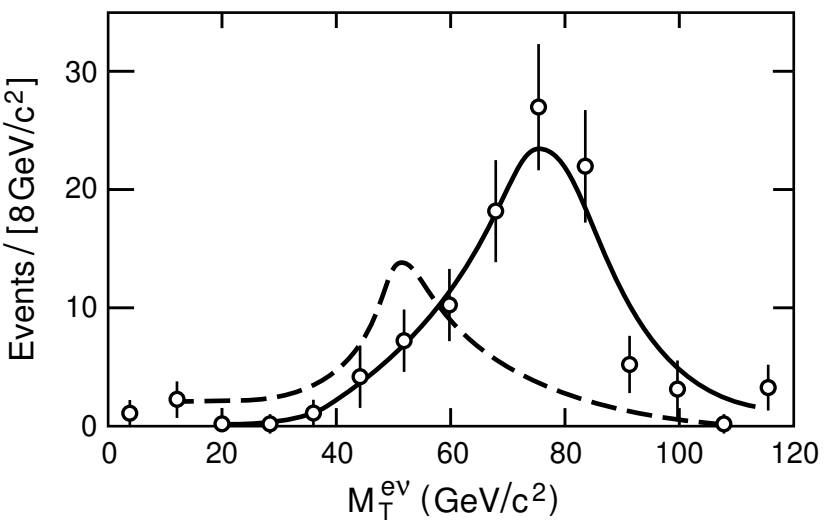


FIG. 57. Campagnari and Franklin

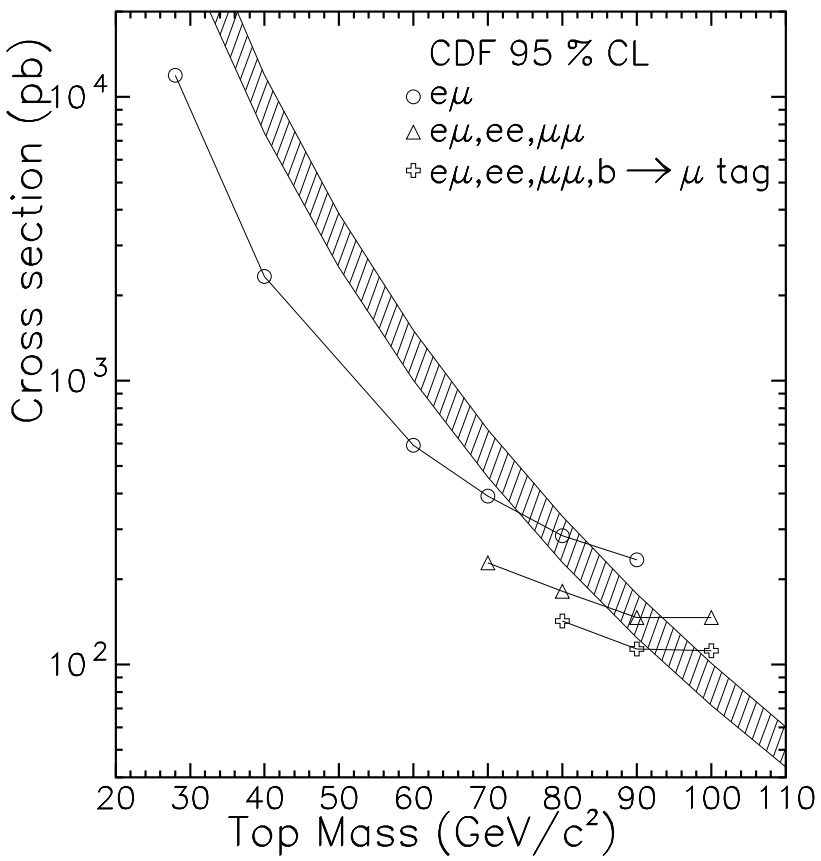


FIG. 58. Campagnari and Franklin

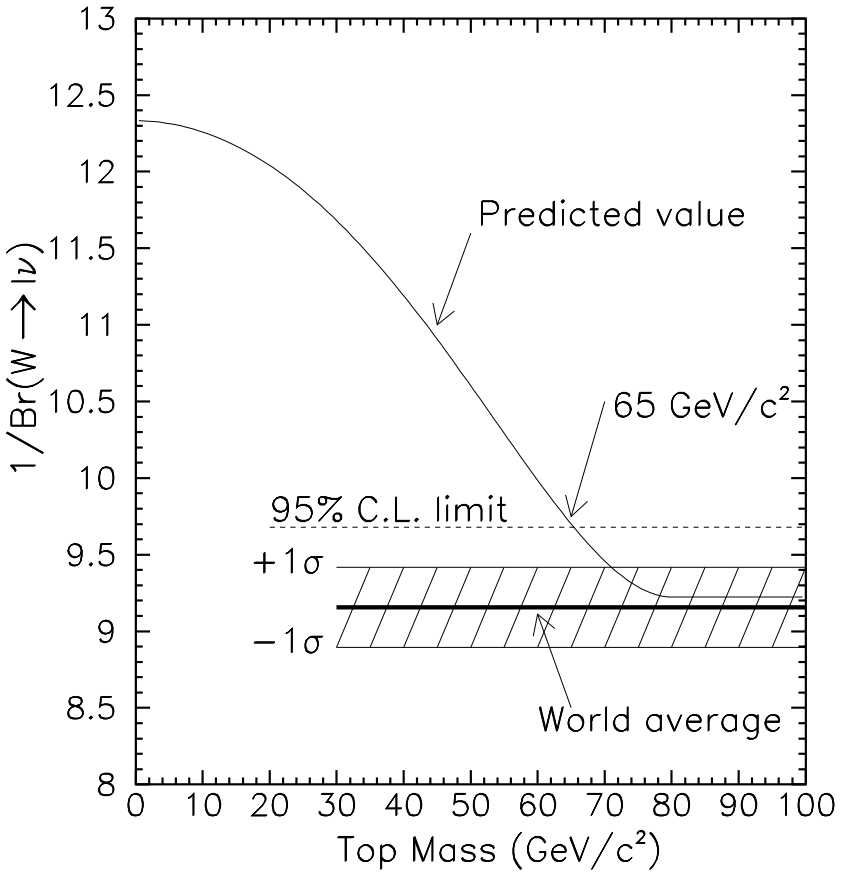


FIG. 59. Campagnari and Franklin

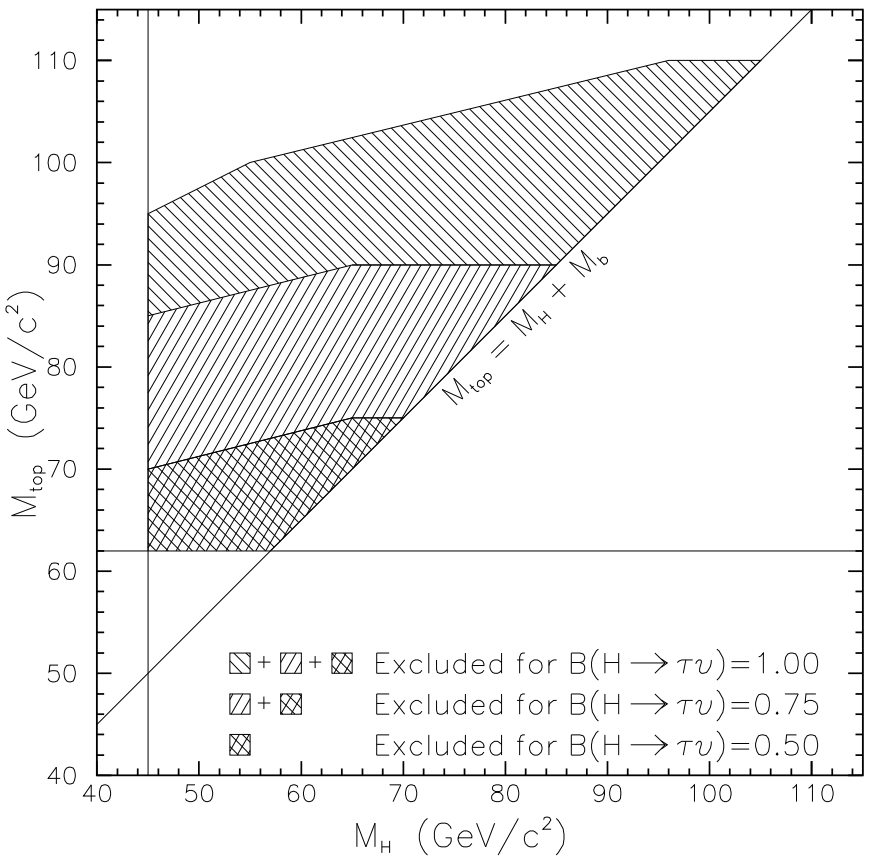


FIG. 60. Campagnari and Franklin

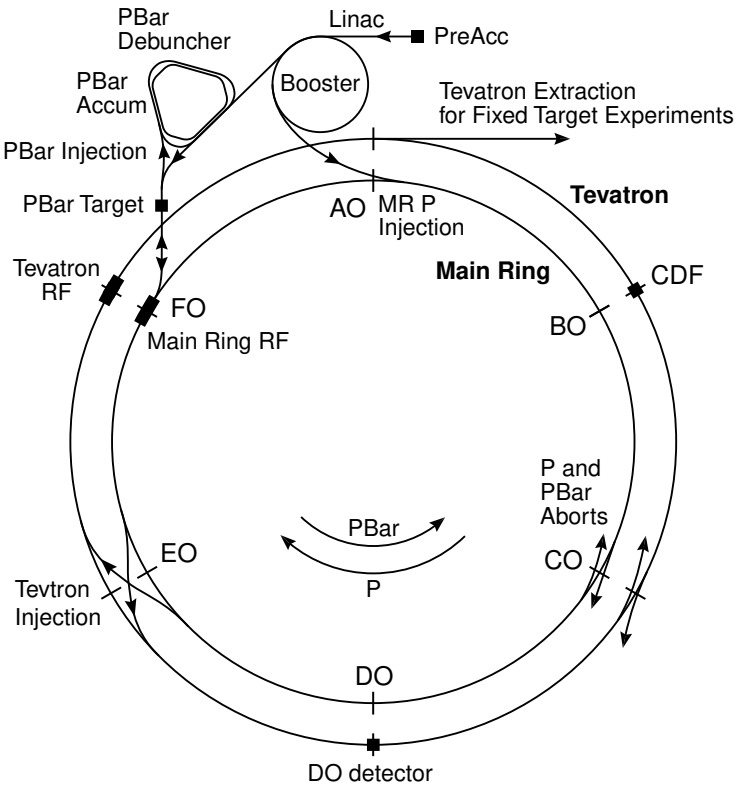


FIG. 61. Campagnari and Franklin

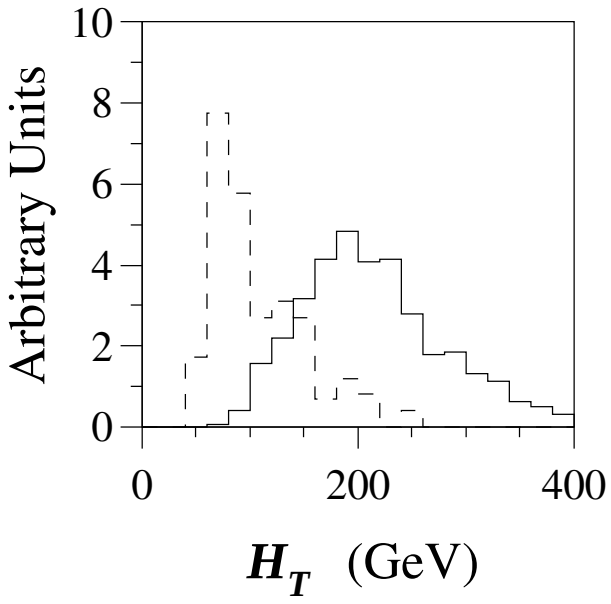


FIG. 62. Campagnari and Franklin

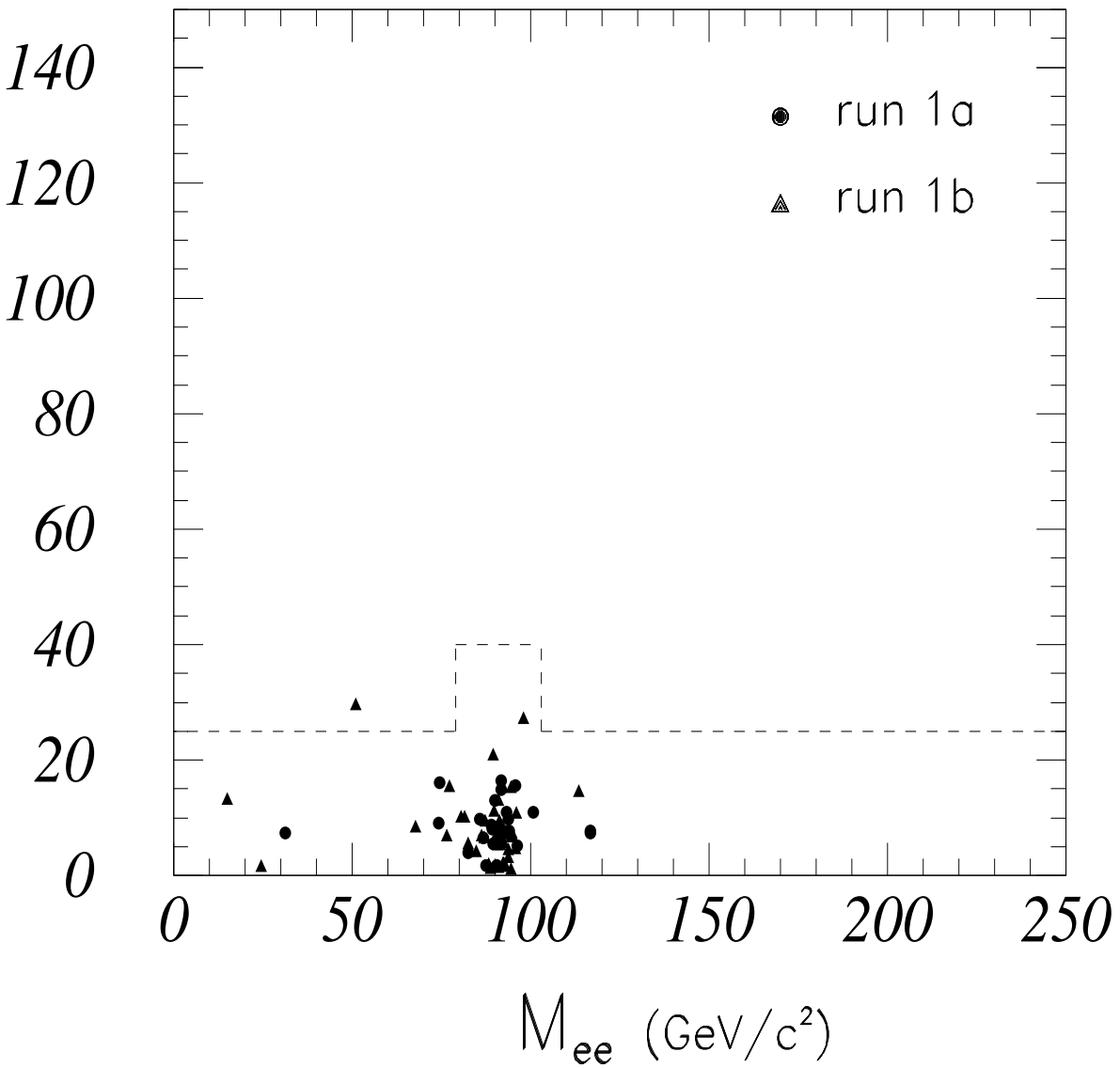


FIG. 63. Campagnari and Franklin

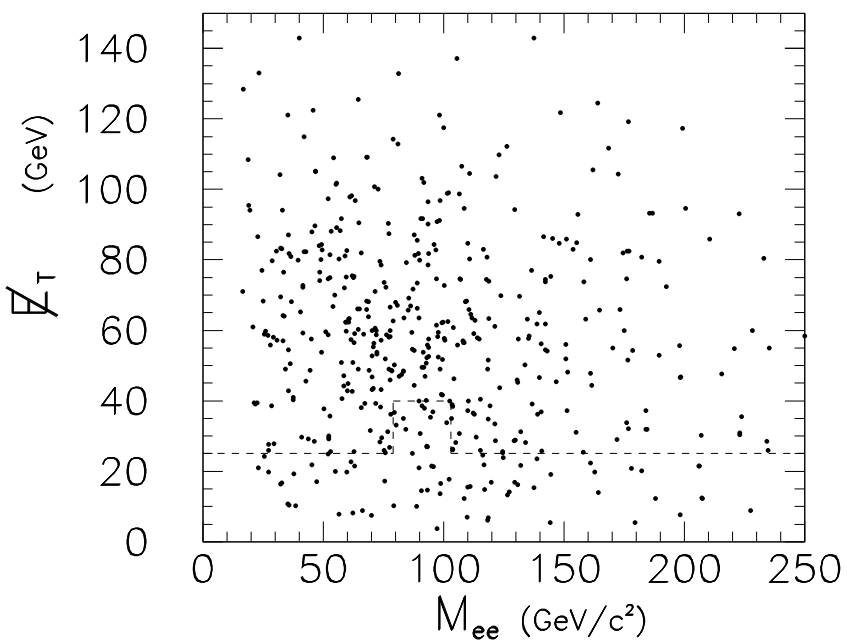


FIG. 64. Campagnari and Franklin

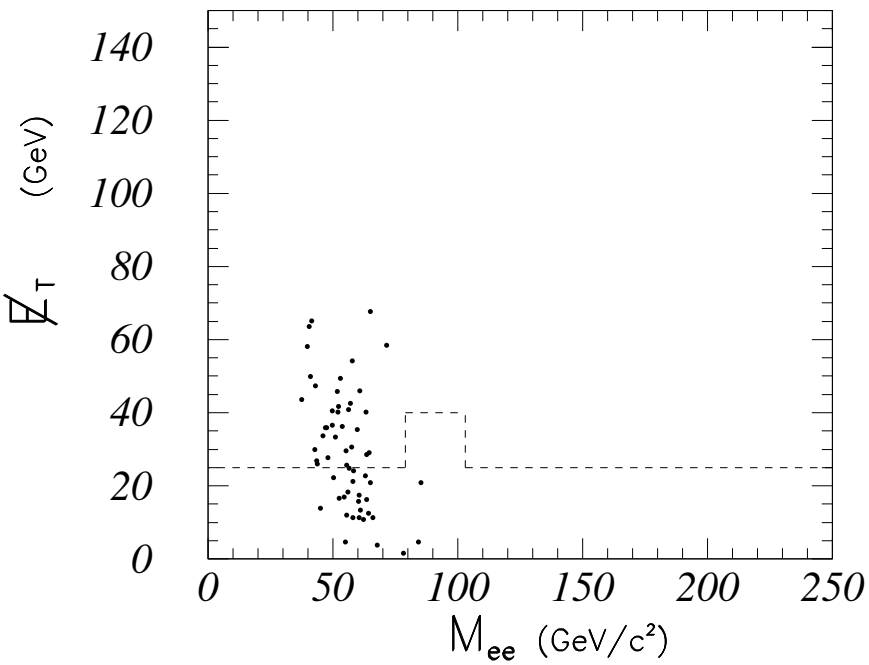


FIG. 65. Campagnari and Franklin

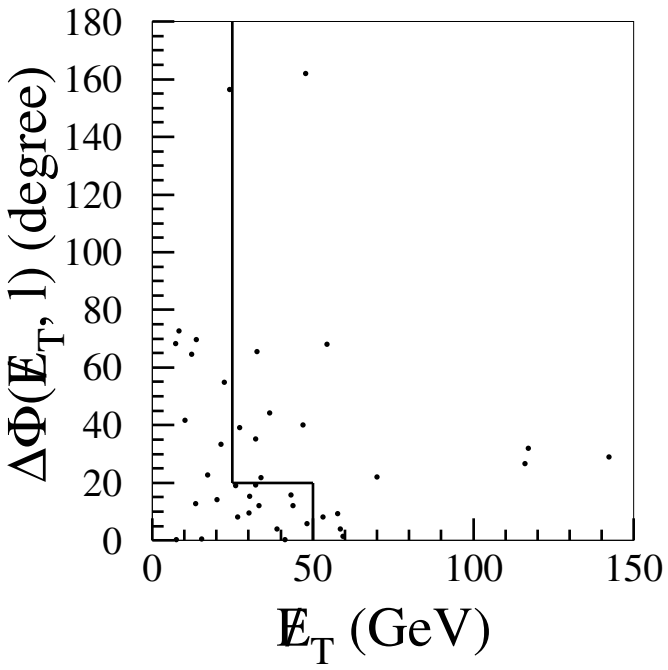


FIG. 66. Campagnari and Franklin

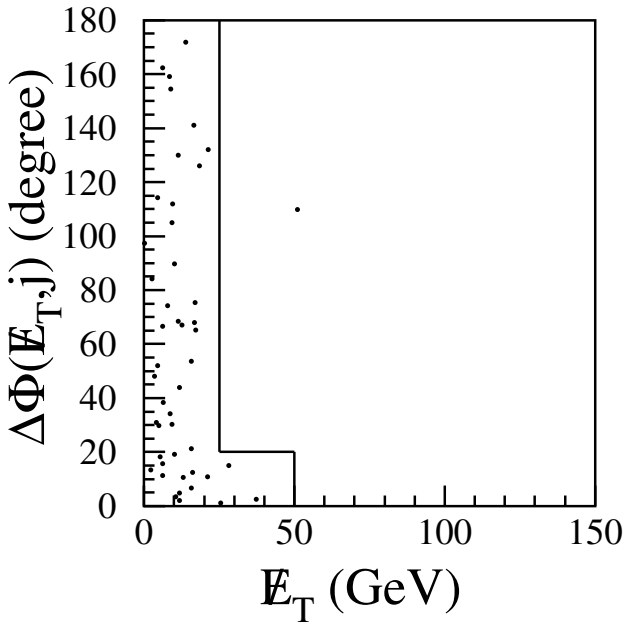


FIG. 67. Campagnari and Franklin

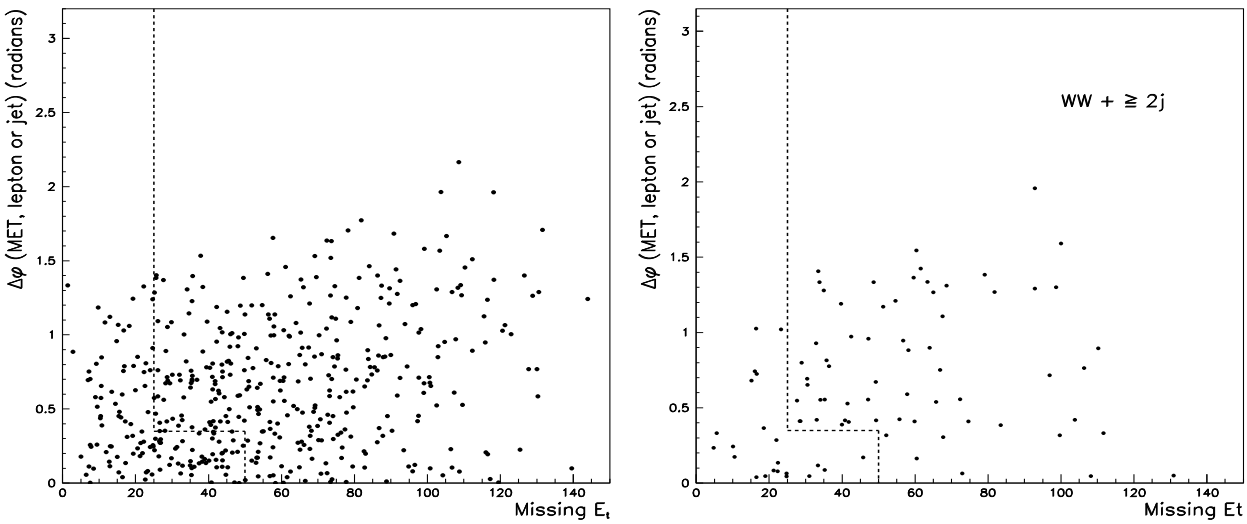


FIG. 68. Campagnari and Franklin

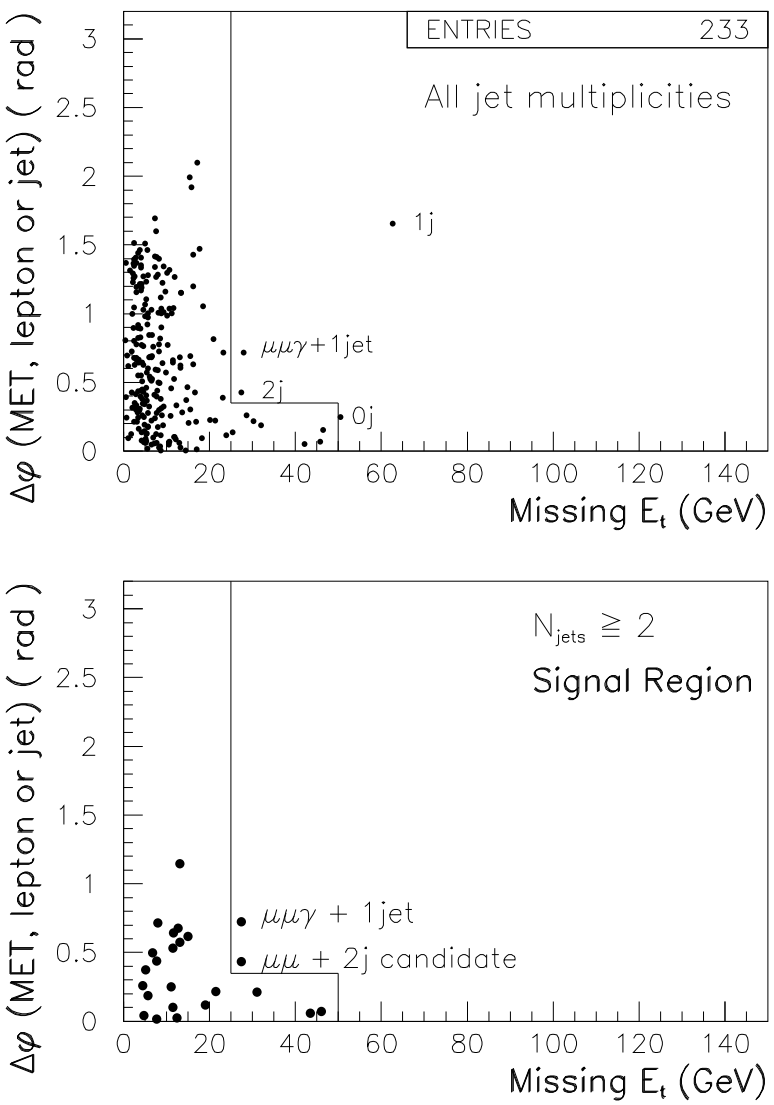


FIG. 69. Campagnari and Franklin

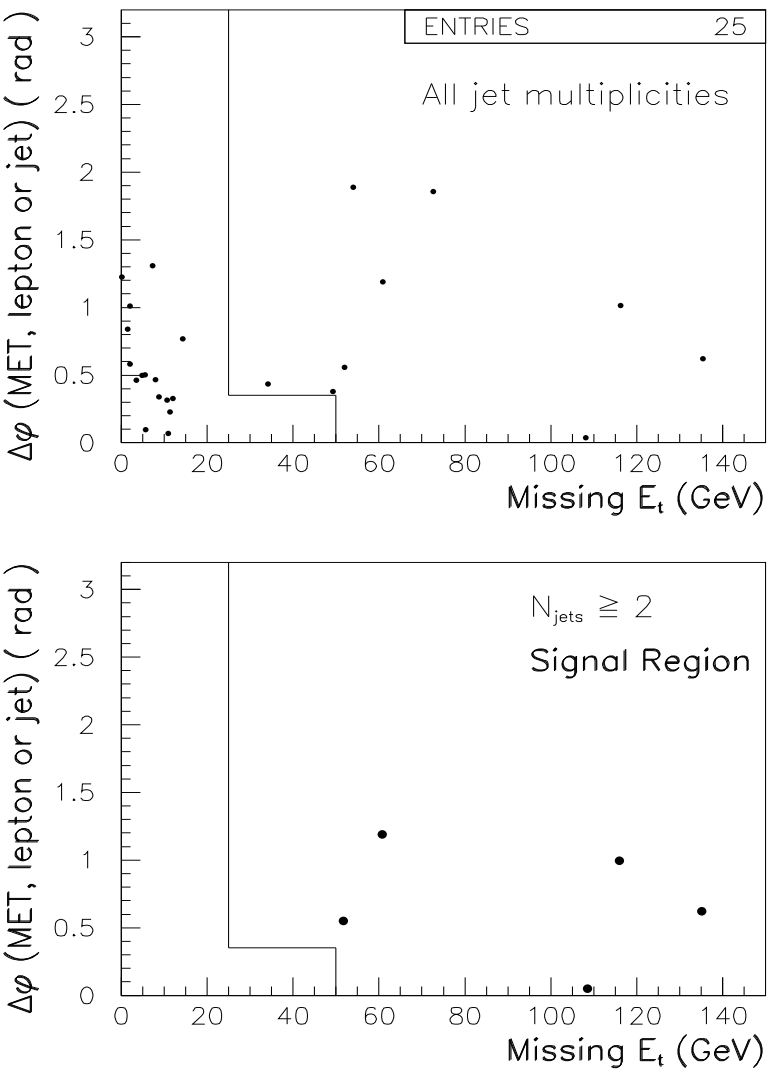


FIG. 70. Campagnari and Franklin

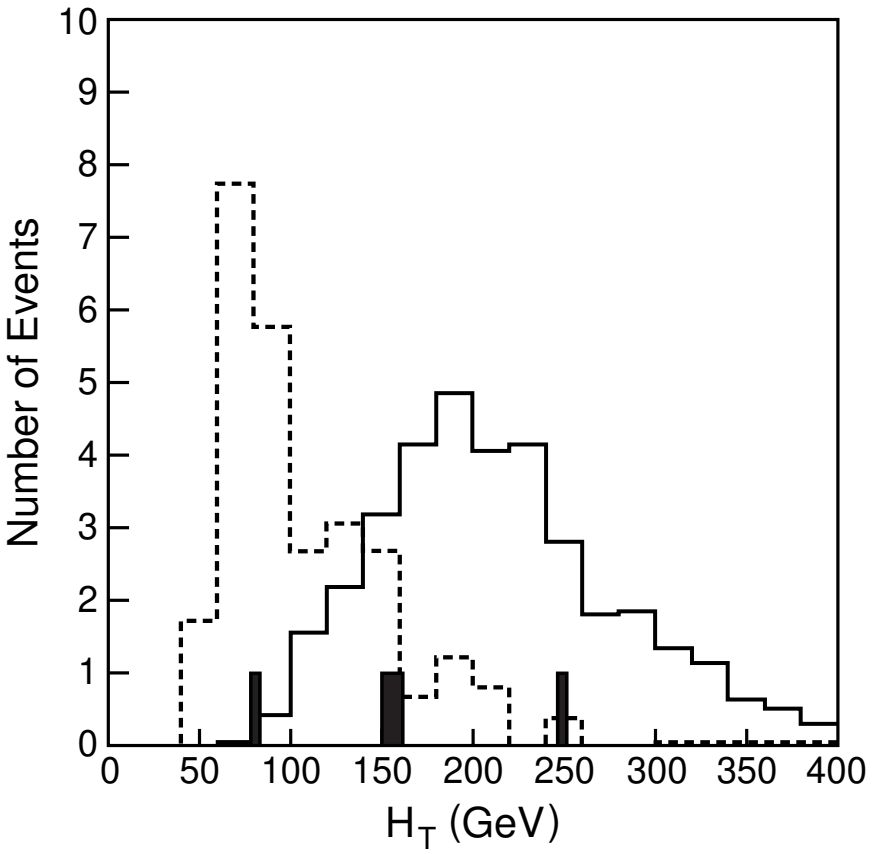


FIG. 71. Campagnari and Franklin

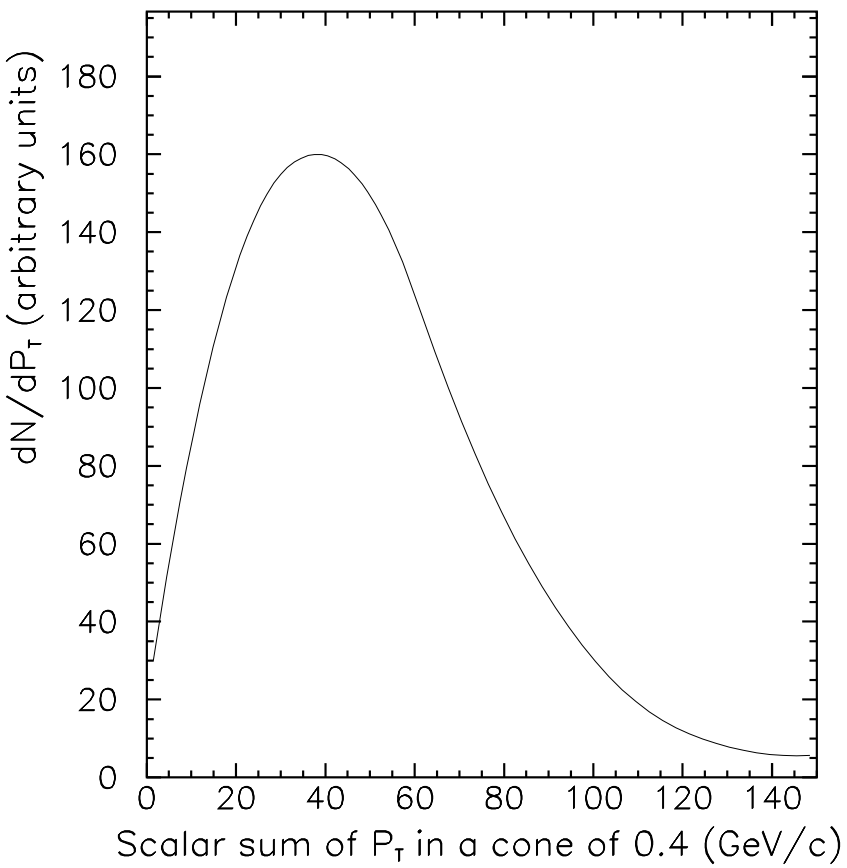


FIG. 72. Campagnari and Franklin

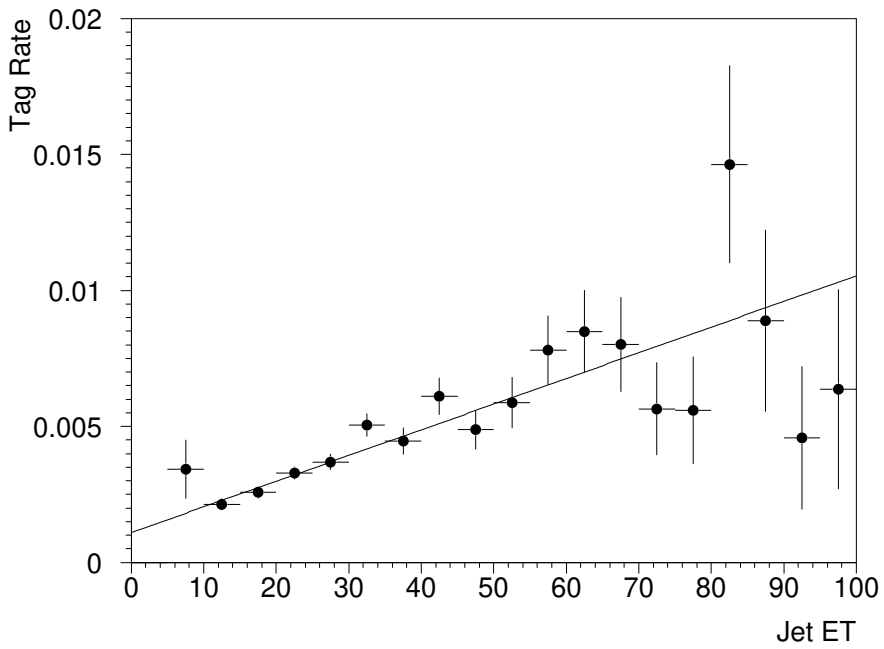


FIG. 73. Campagnari and Franklin

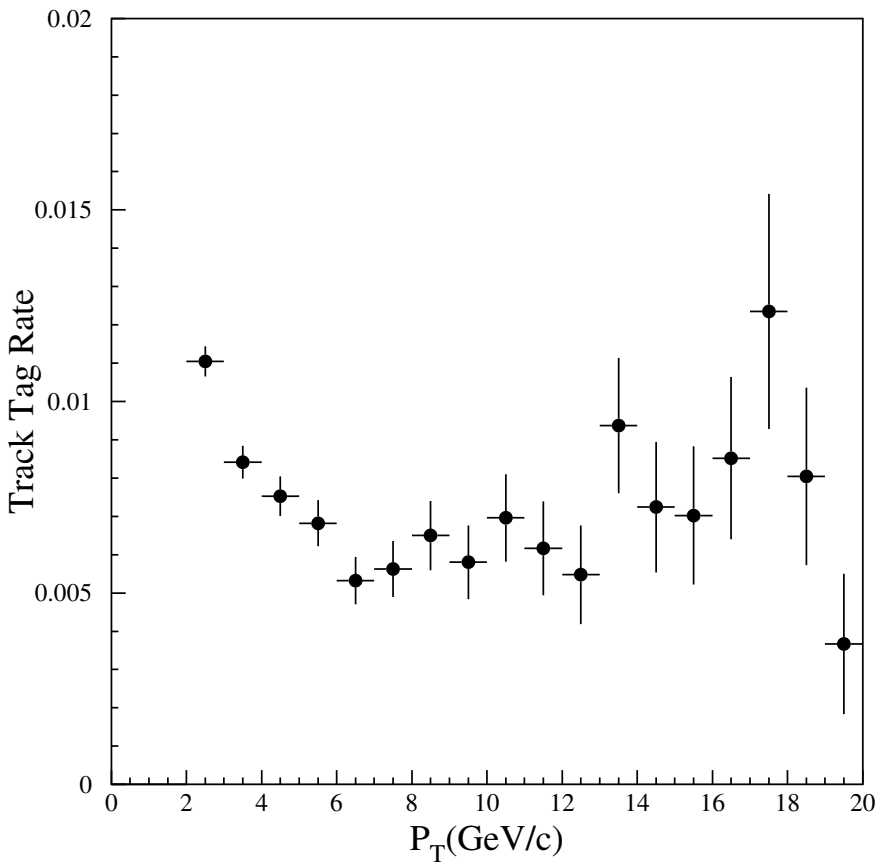


FIG. 74. Campagnari and Franklin

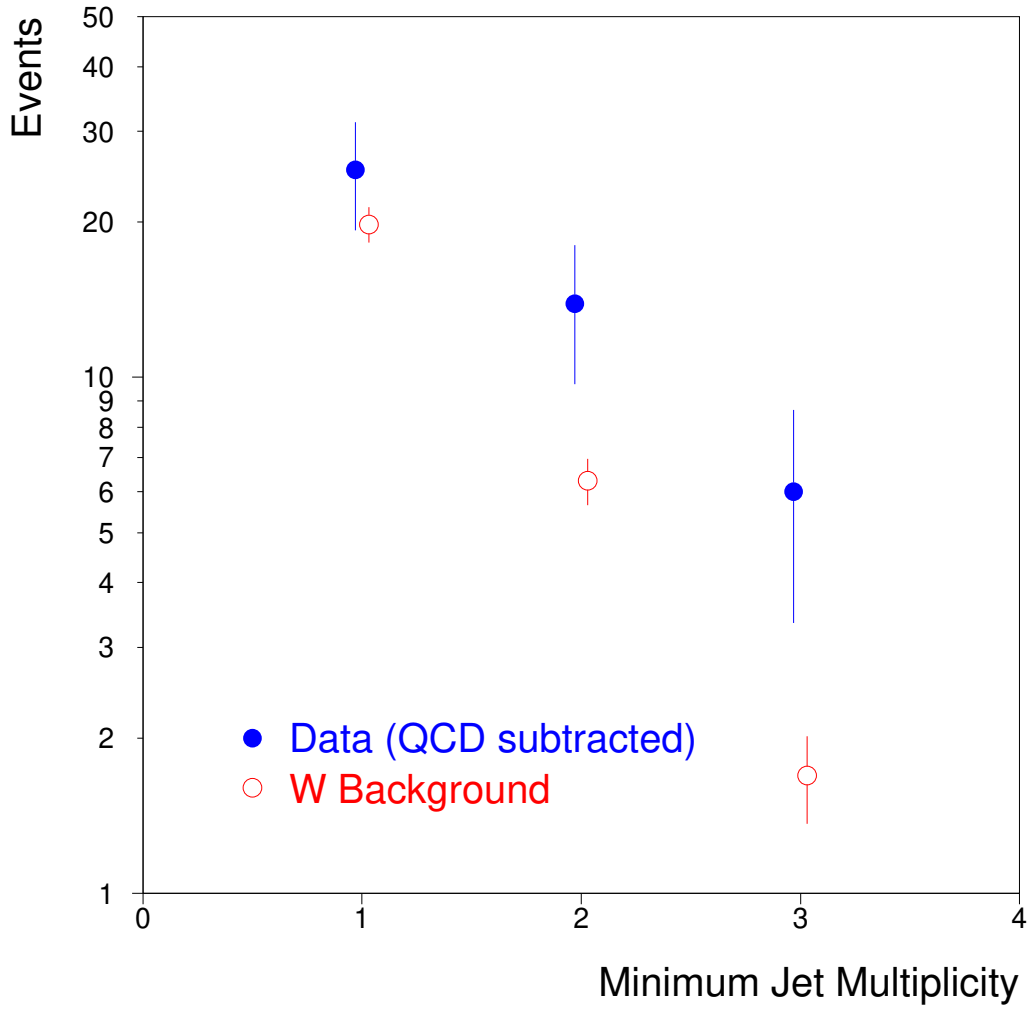


FIG. 75. Campagnari and Franklin

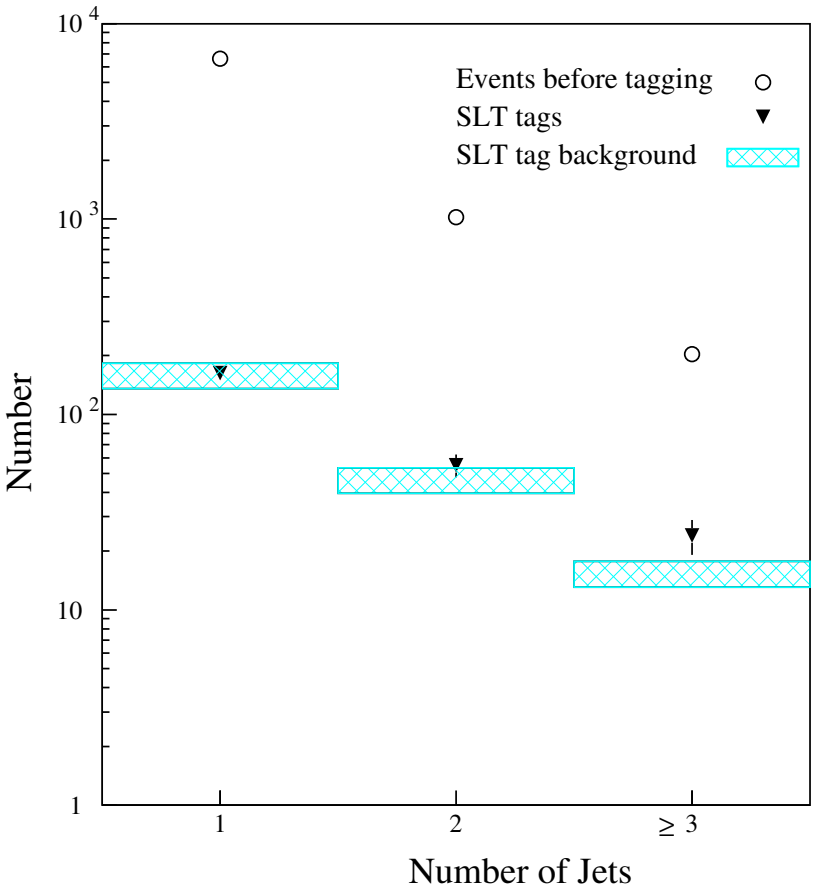


FIG. 76. Campagnari and Franklin

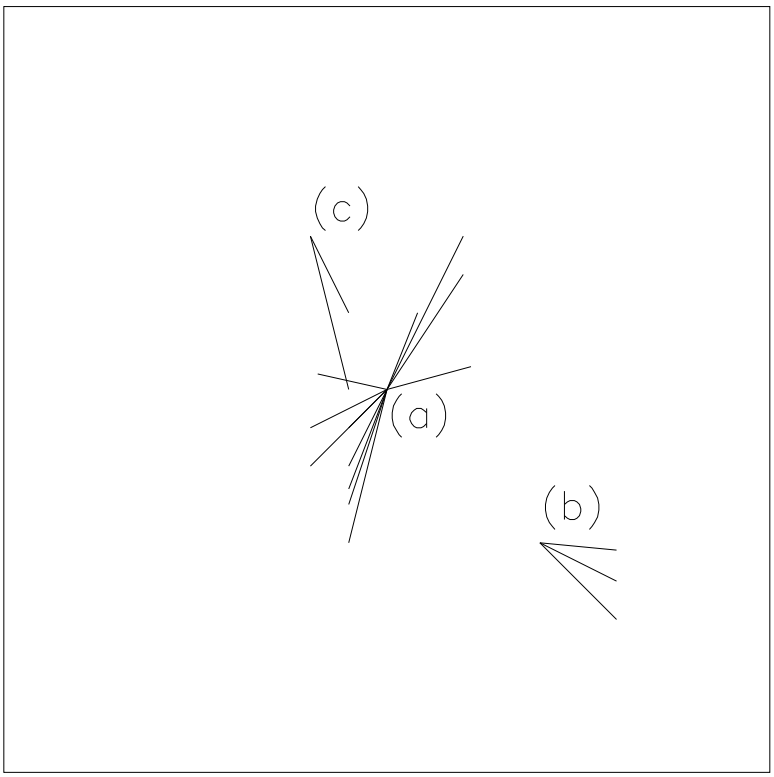


FIG. 77. Campagnari and Franklin

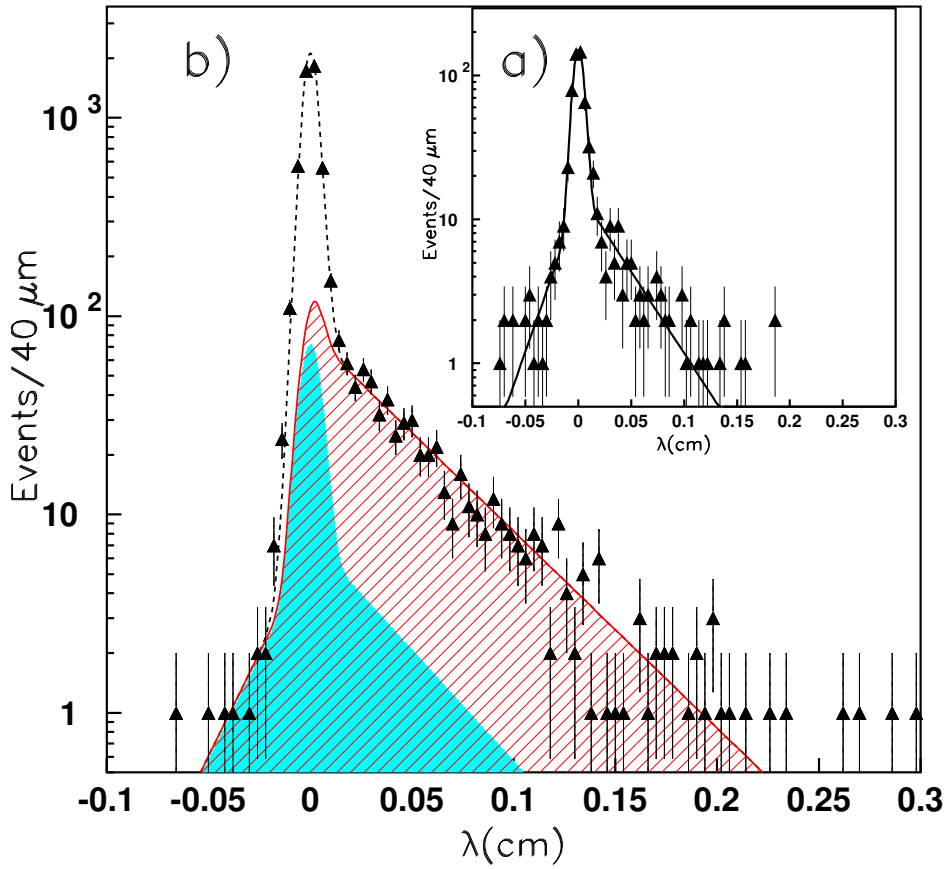


FIG. 78. Campagnari and Franklin

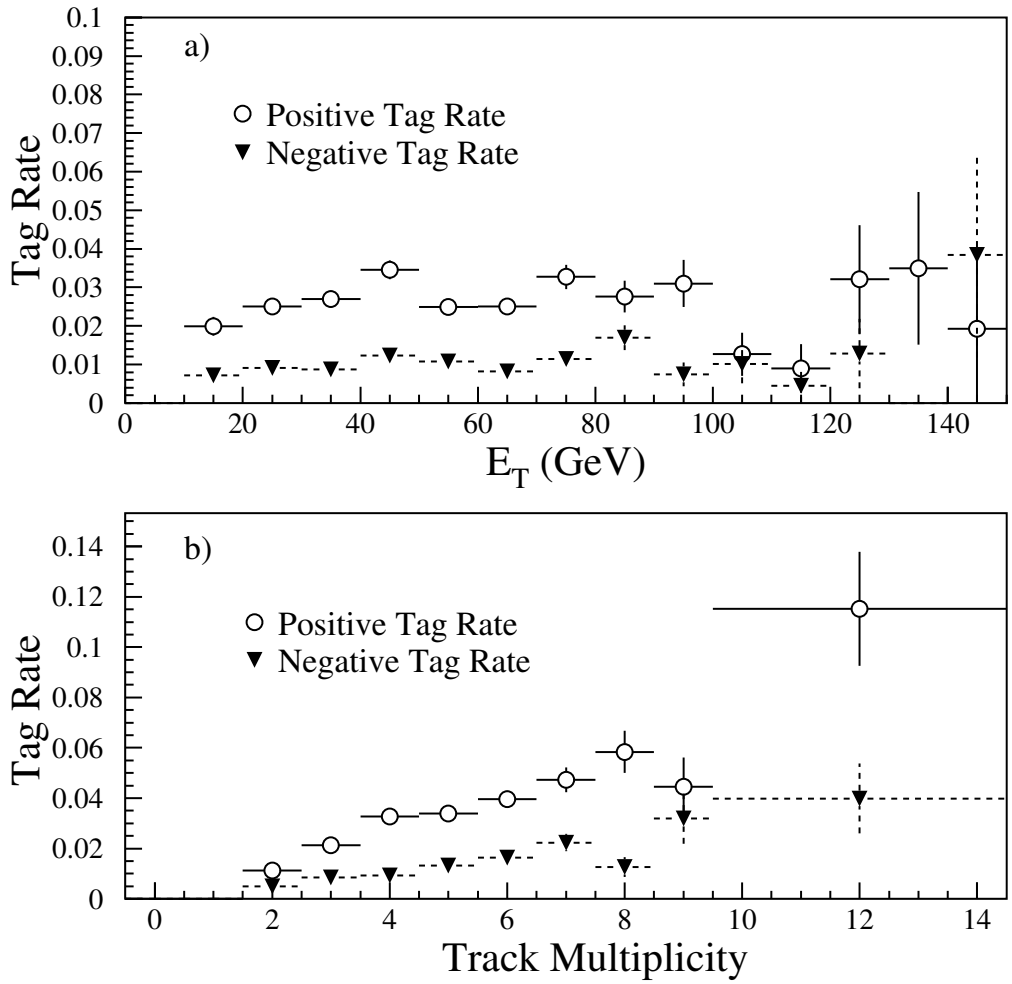


FIG. 79. Campagnari and Franklin

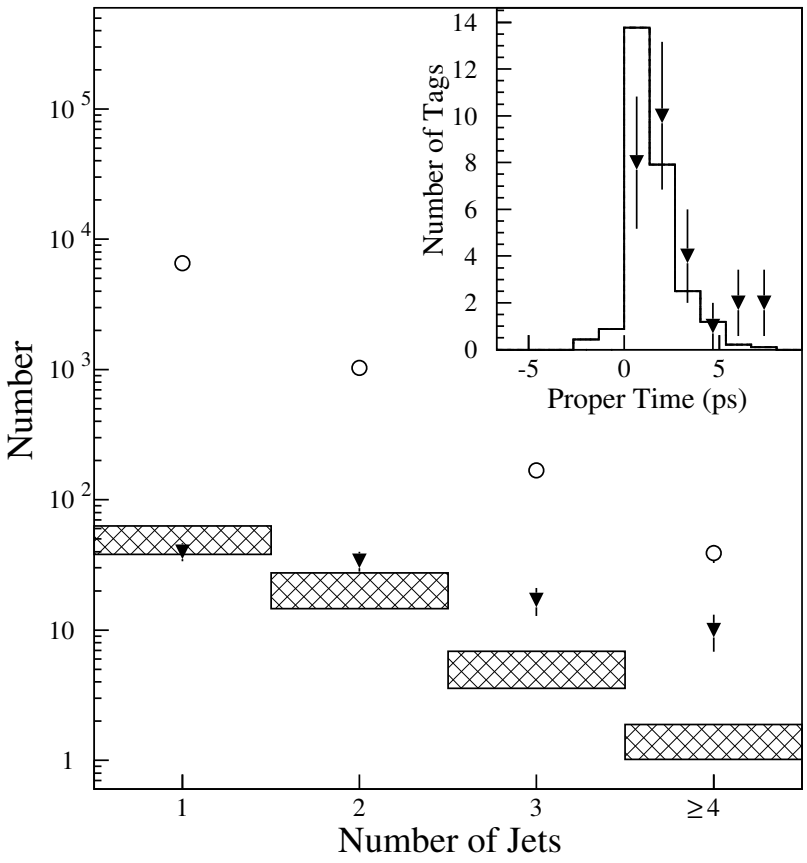


FIG. 80. Campagnari and Franklin

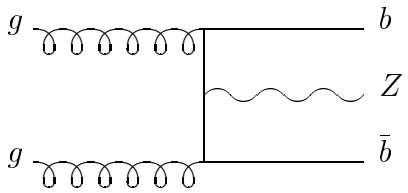


FIG. 81. Campagnari and Franklin

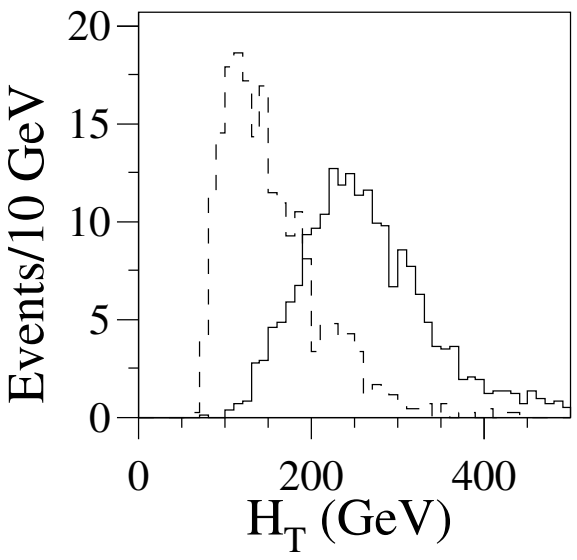


FIG. 82. Campagnari and Franklin

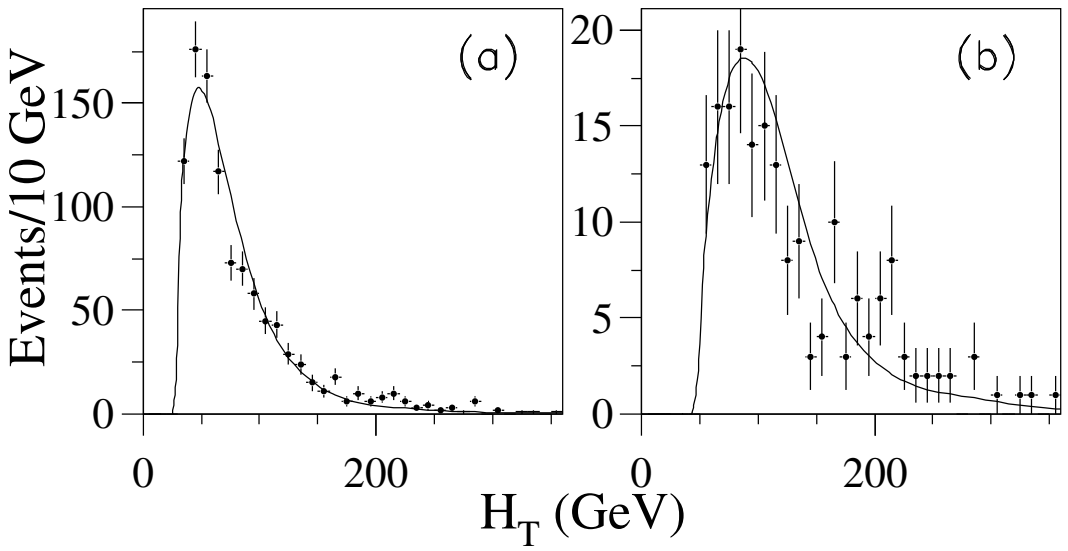


FIG. 83. Campagnari and Franklin

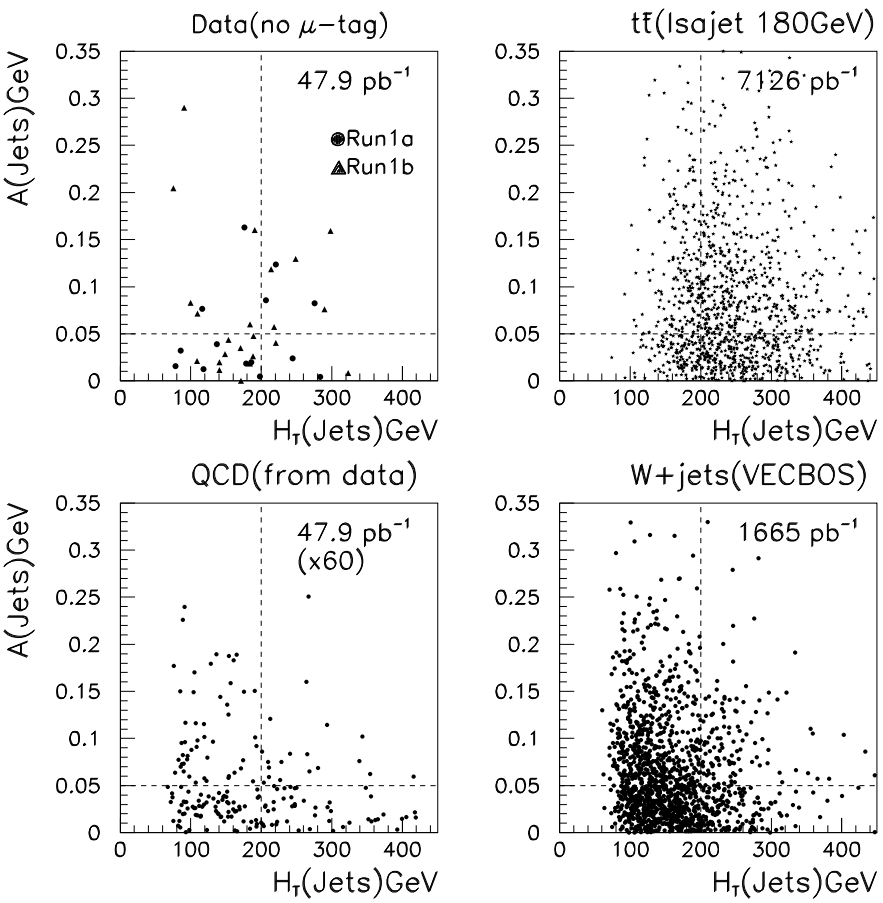


FIG. 84. Campagnari and Franklin

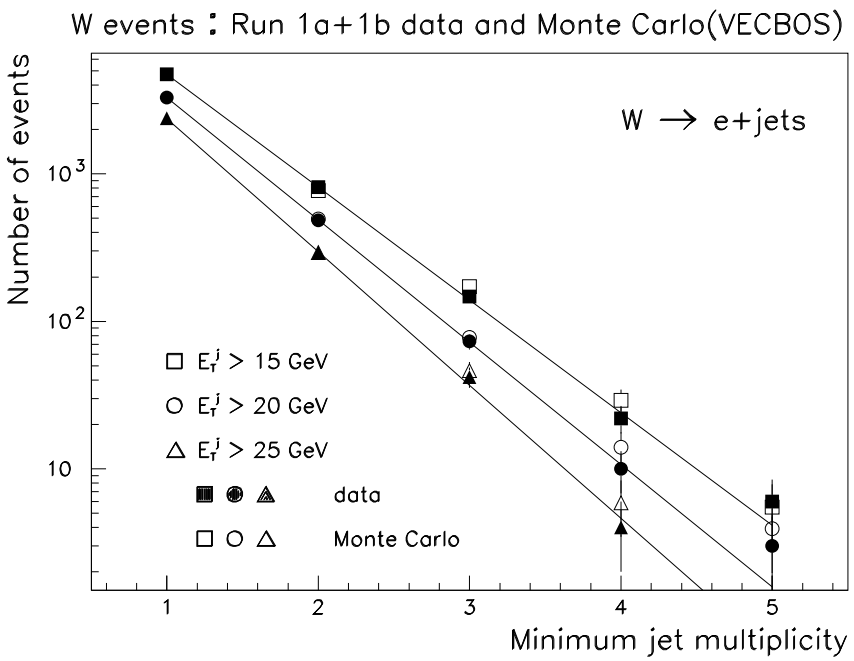


FIG. 85. Campagnari and Franklin

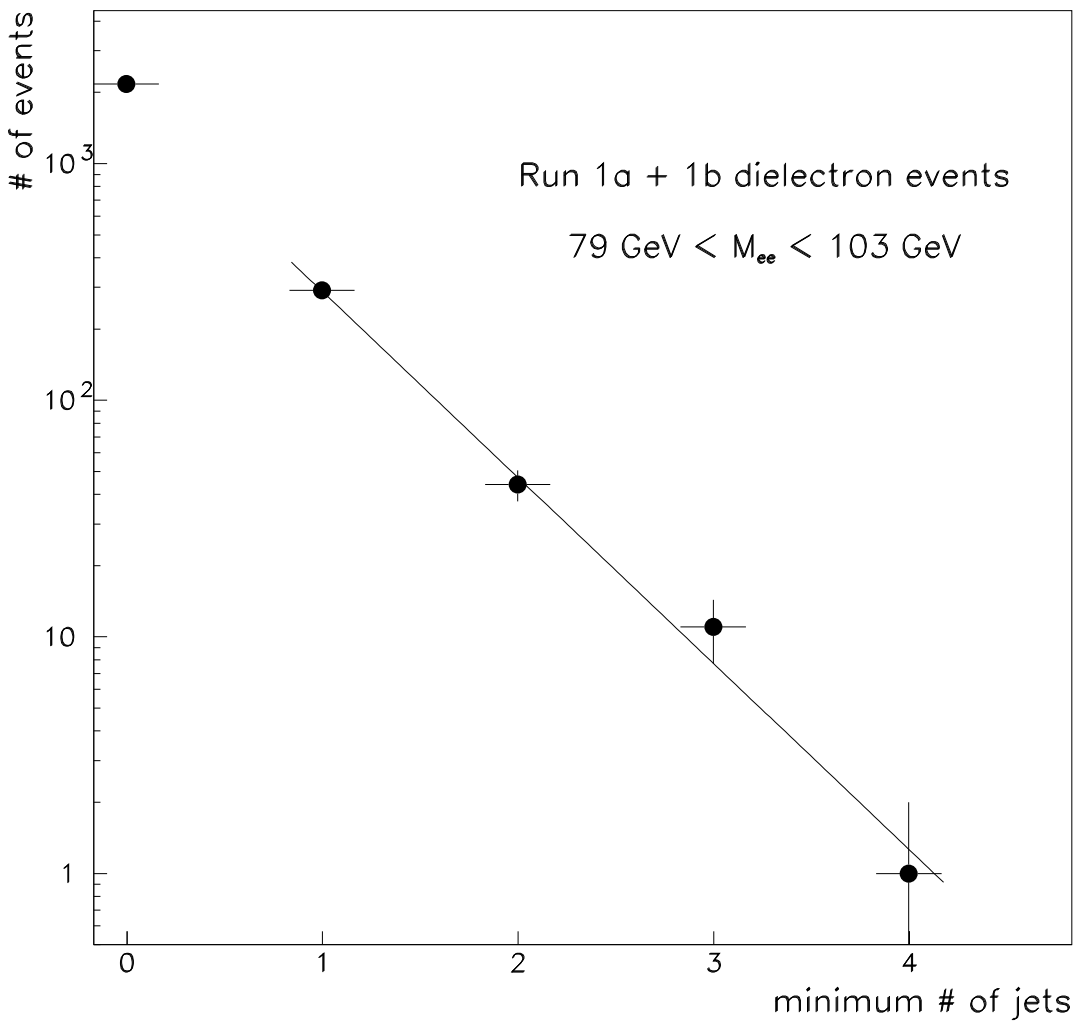


FIG. 86. Campagnari and Franklin

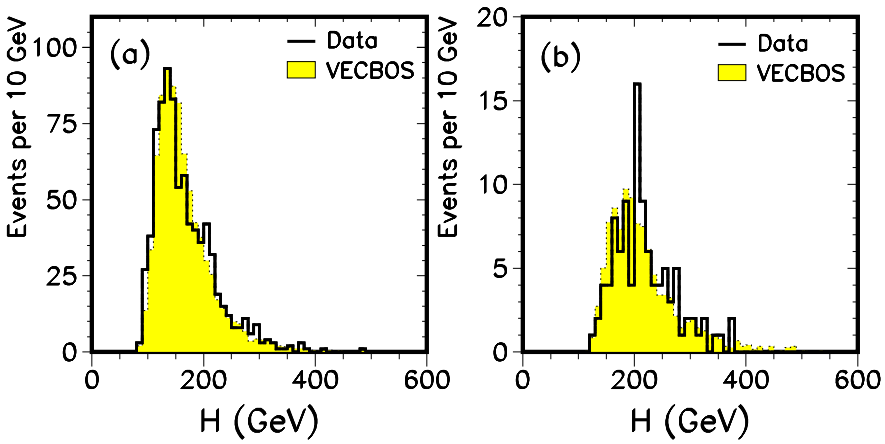


FIG. 87. Campagnari and Franklin

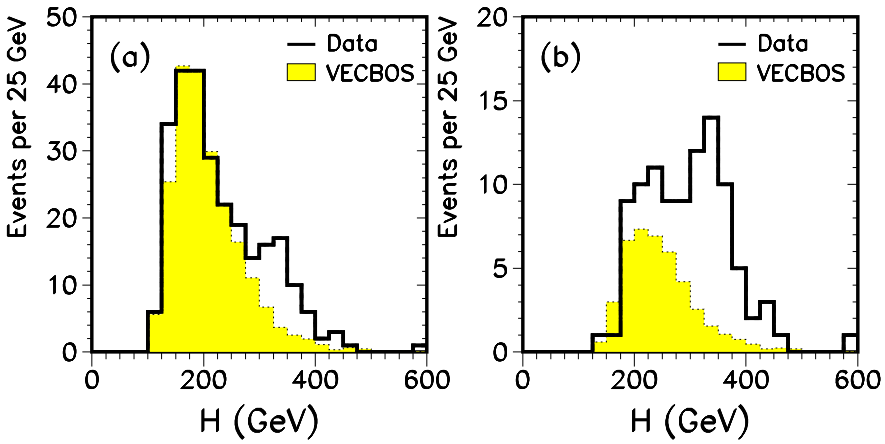


FIG. 88. Campagnari and Franklin

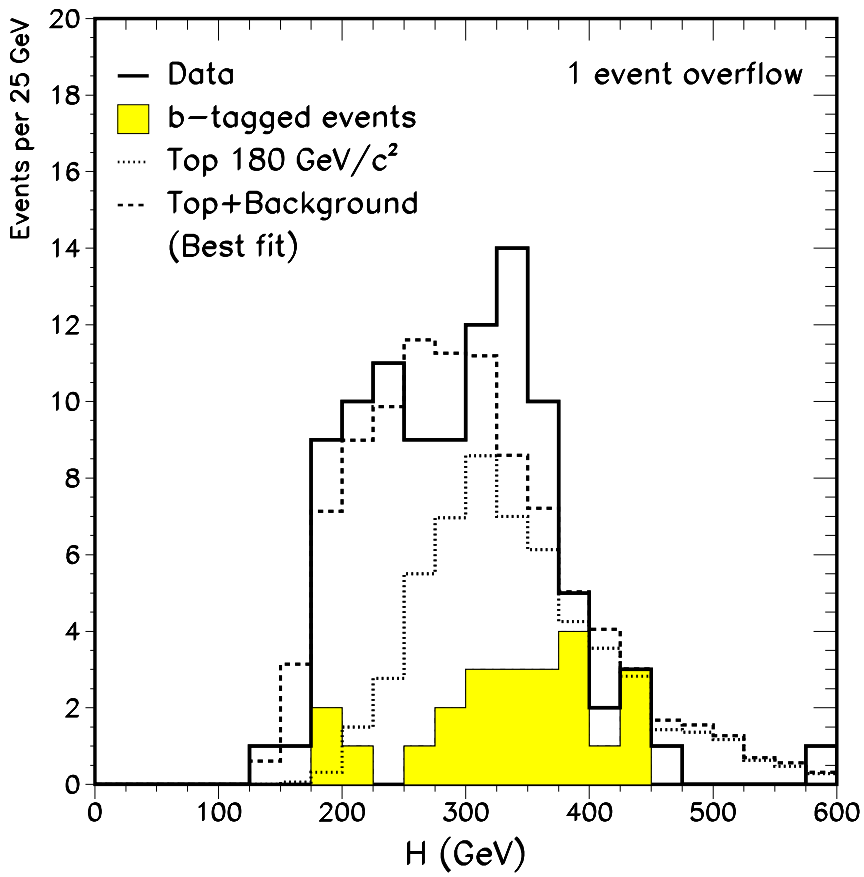


FIG. 89. Campagnari and Franklin

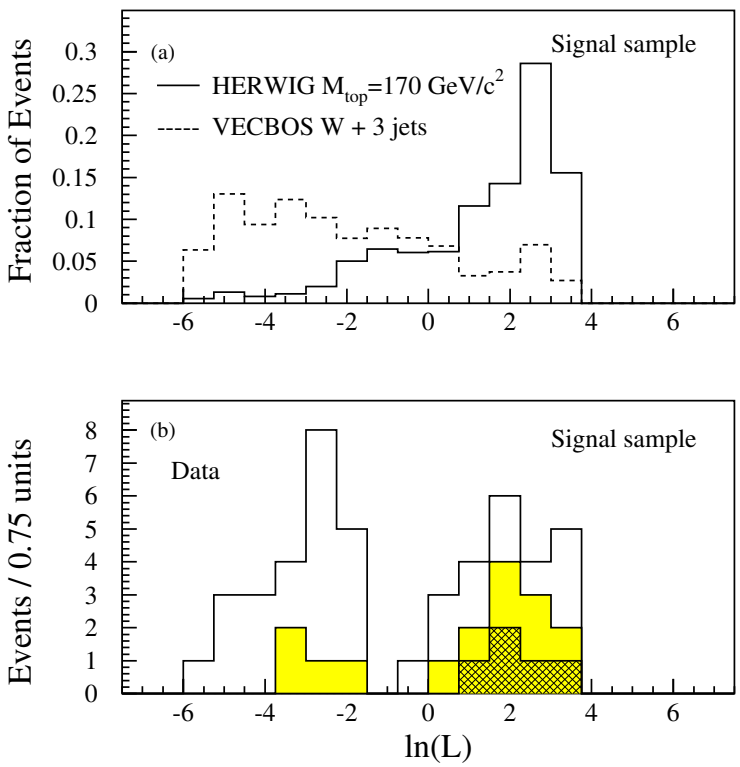


FIG. 90. Campagnari and Franklin

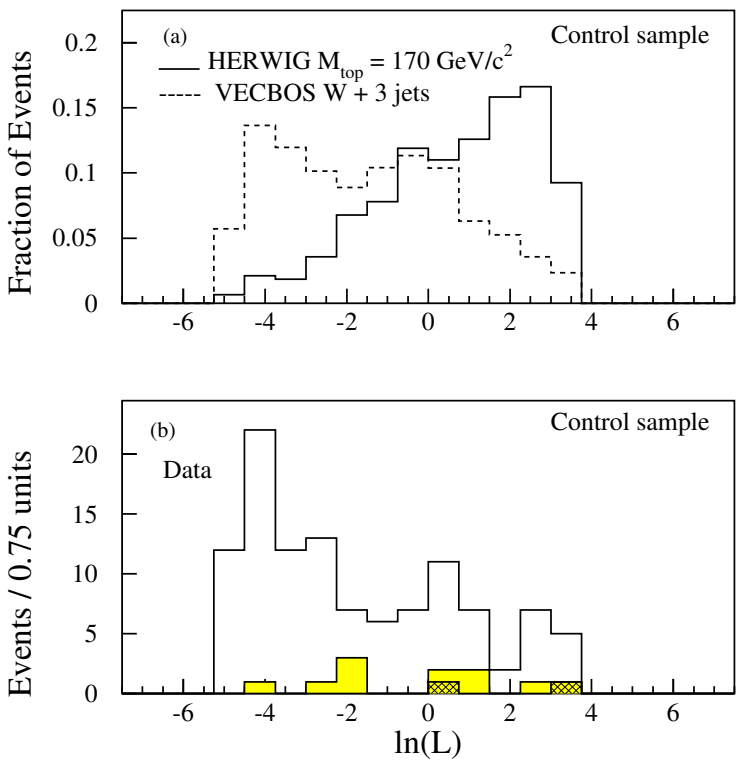


FIG. 91. Campagnari and Franklin

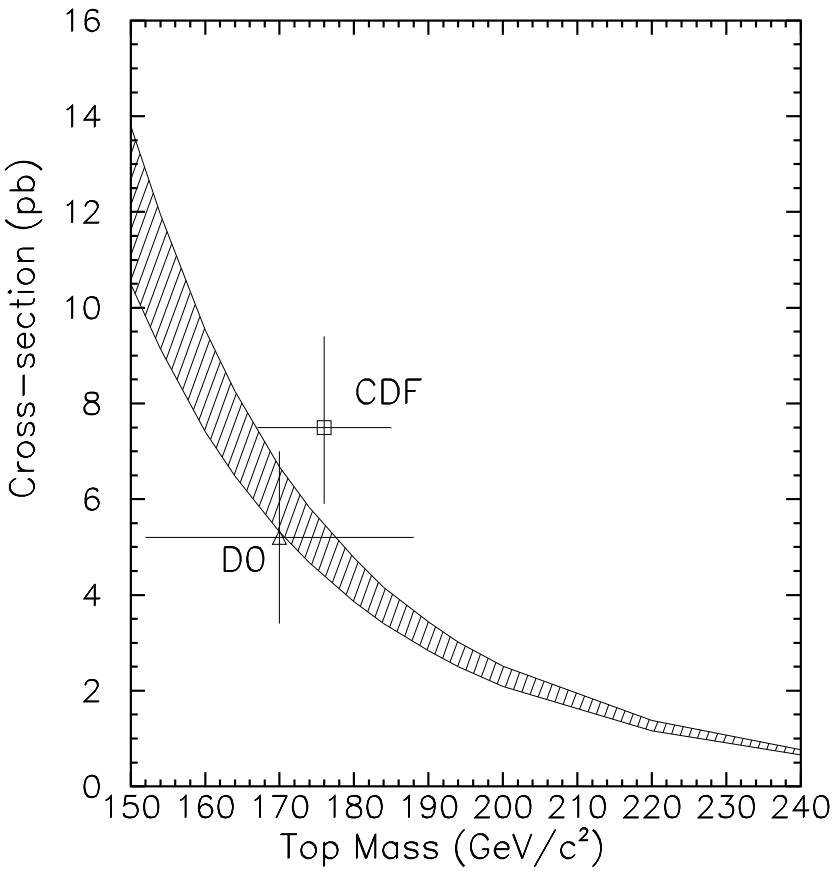


FIG. 92. Campagnari and Franklin

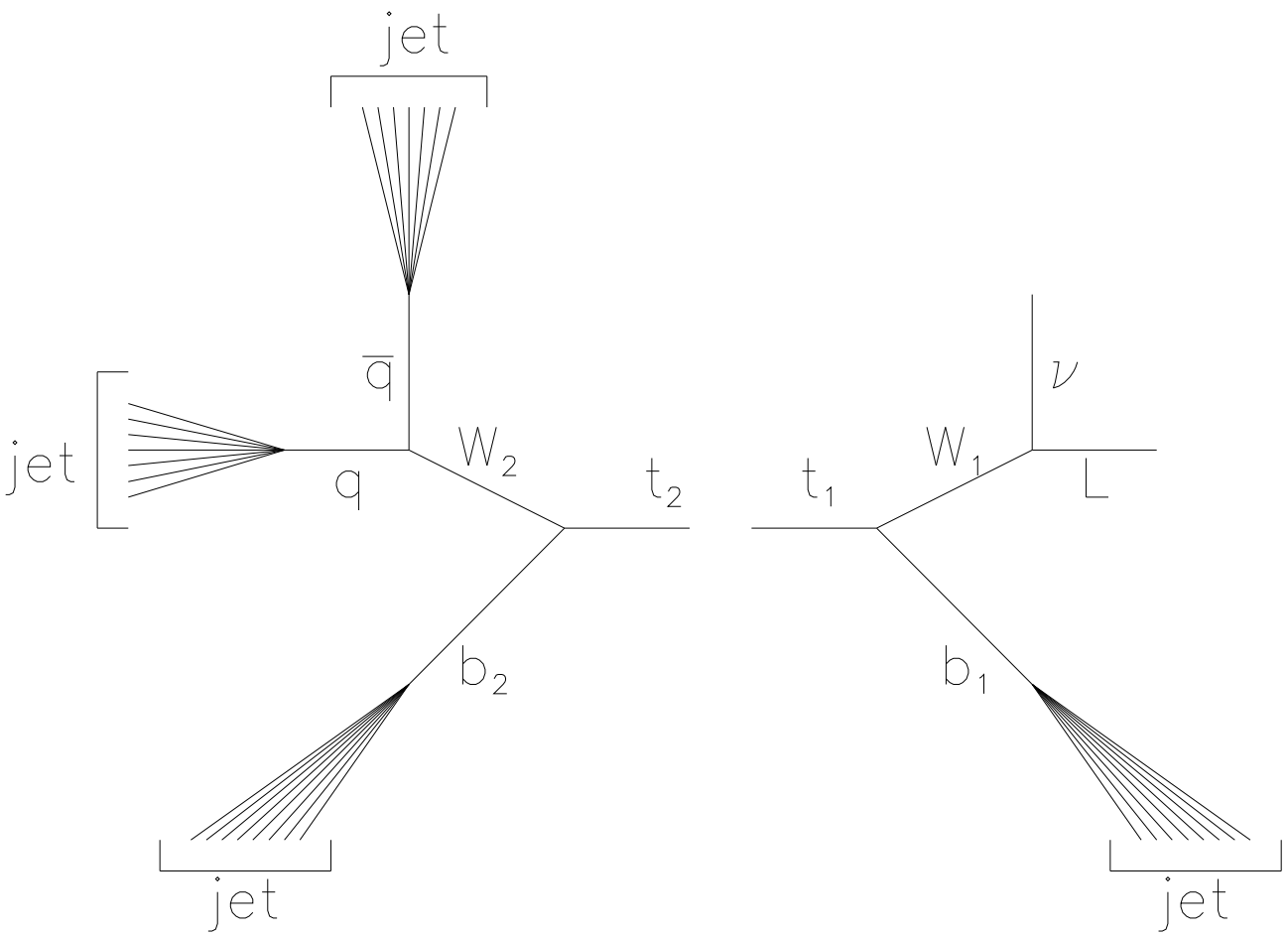


FIG. 93. Campagnari and Franklin

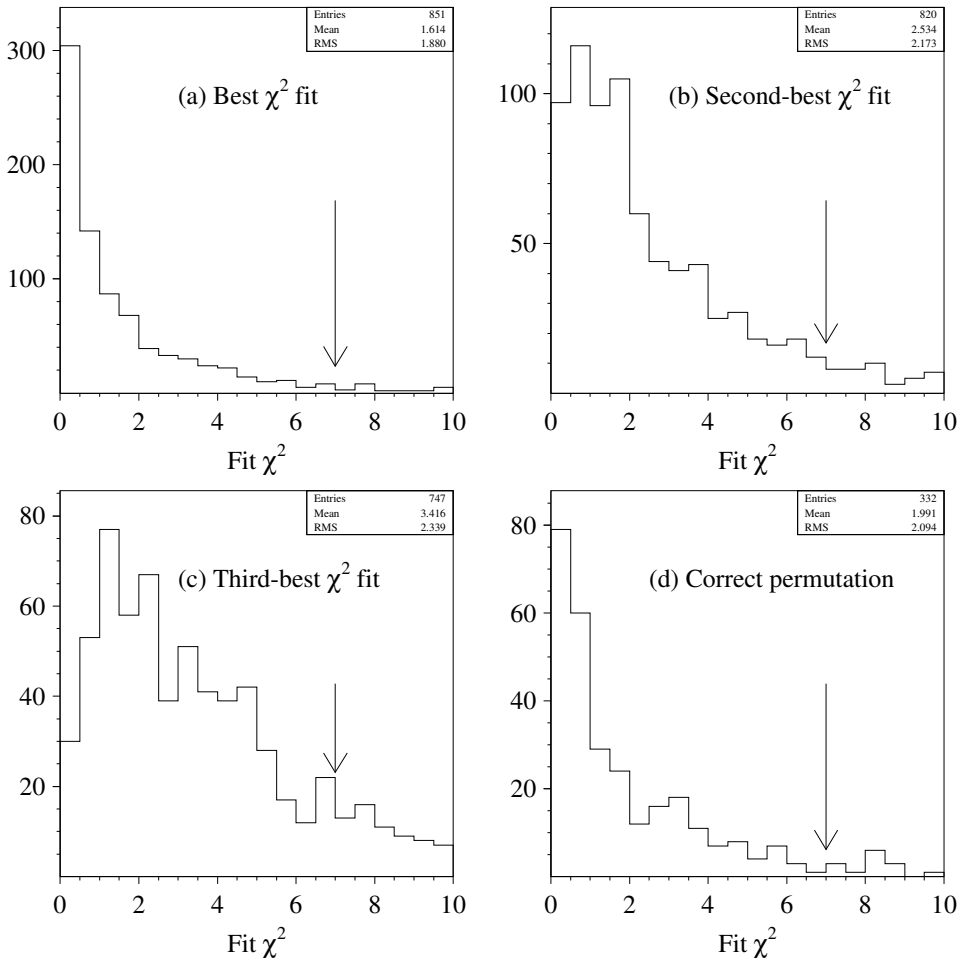


FIG. 94. Campagnari and Franklin

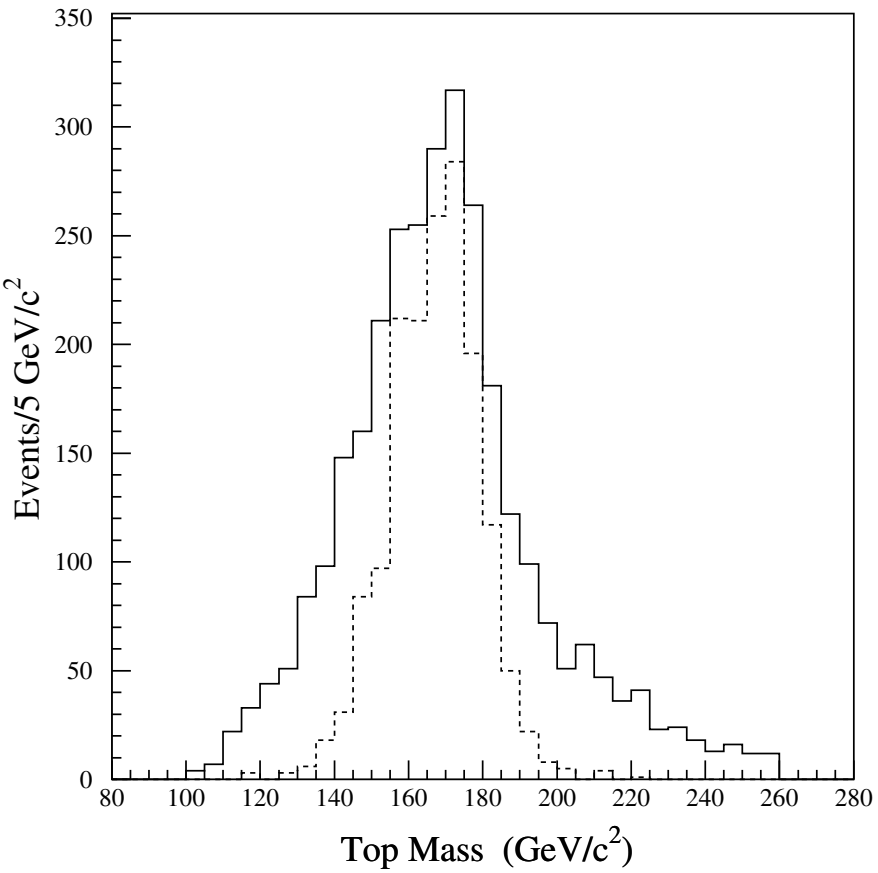


FIG. 95. Campagnari and Franklin

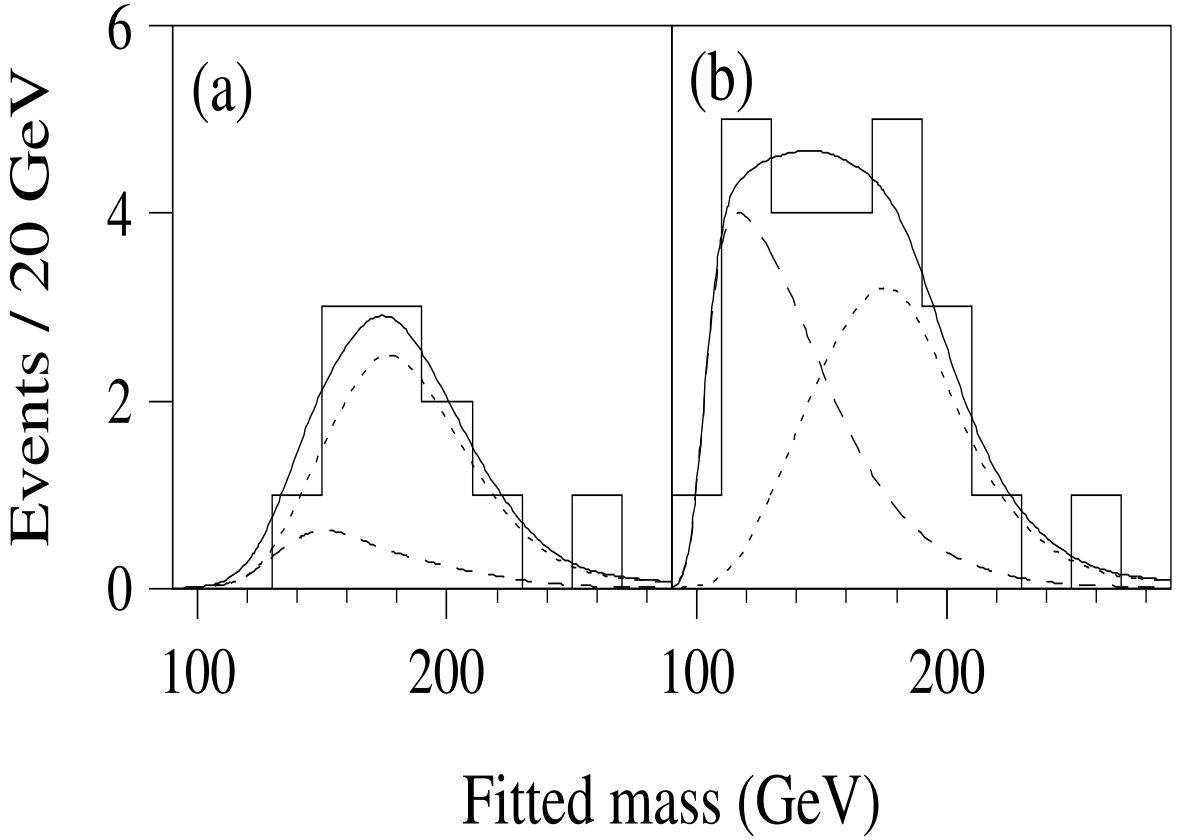


FIG. 96. Campagnari and Franklin

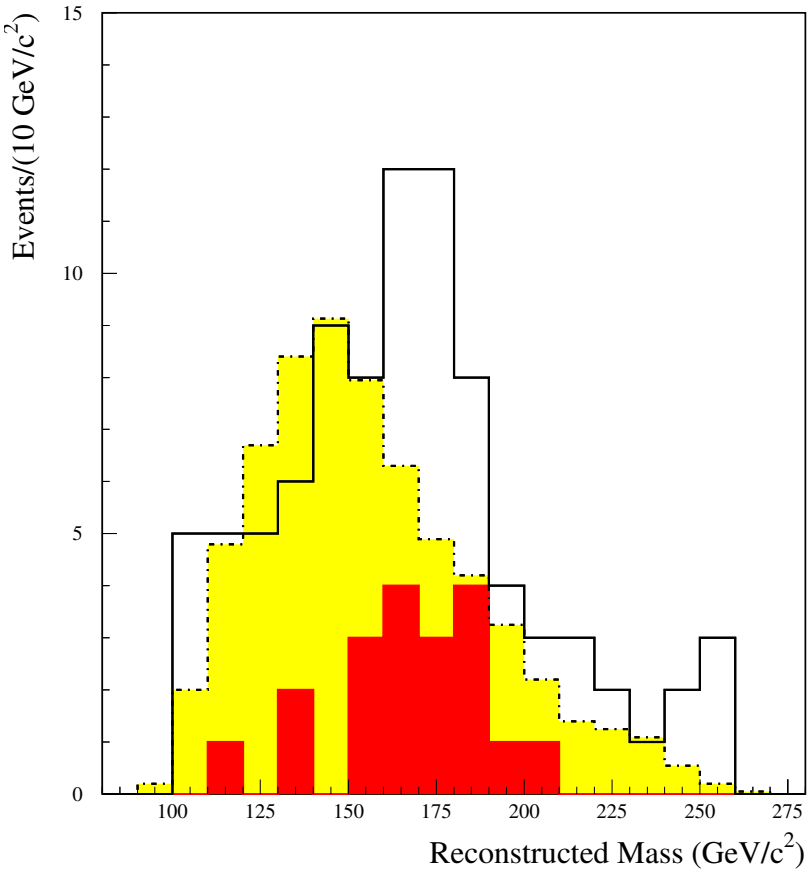


FIG. 97. Campagnari and Franklin

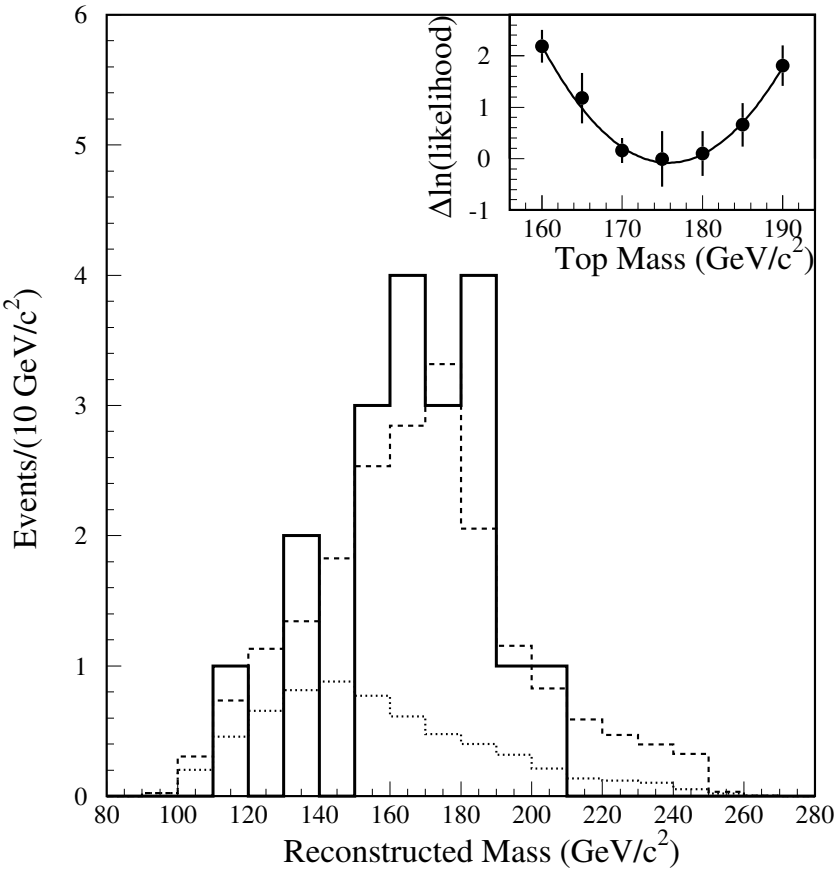


FIG. 98. Campagnari and Franklin

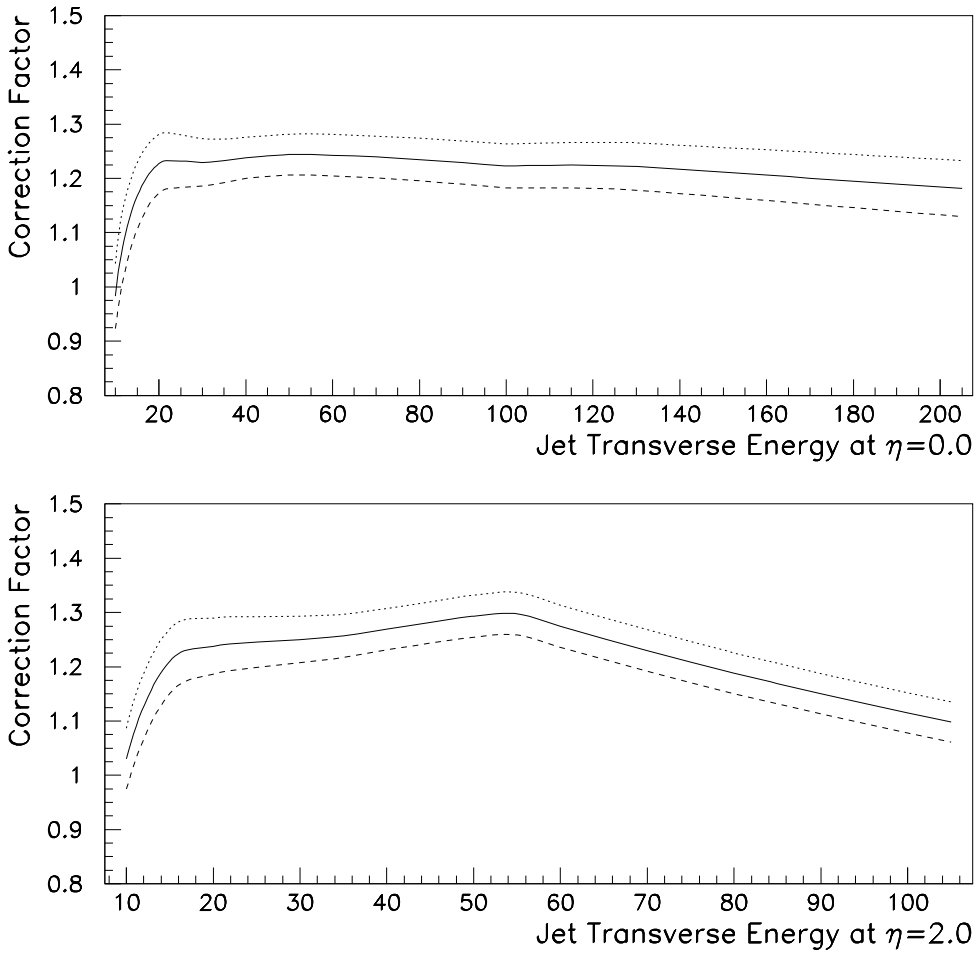


FIG. 99. Campagnari and Franklin

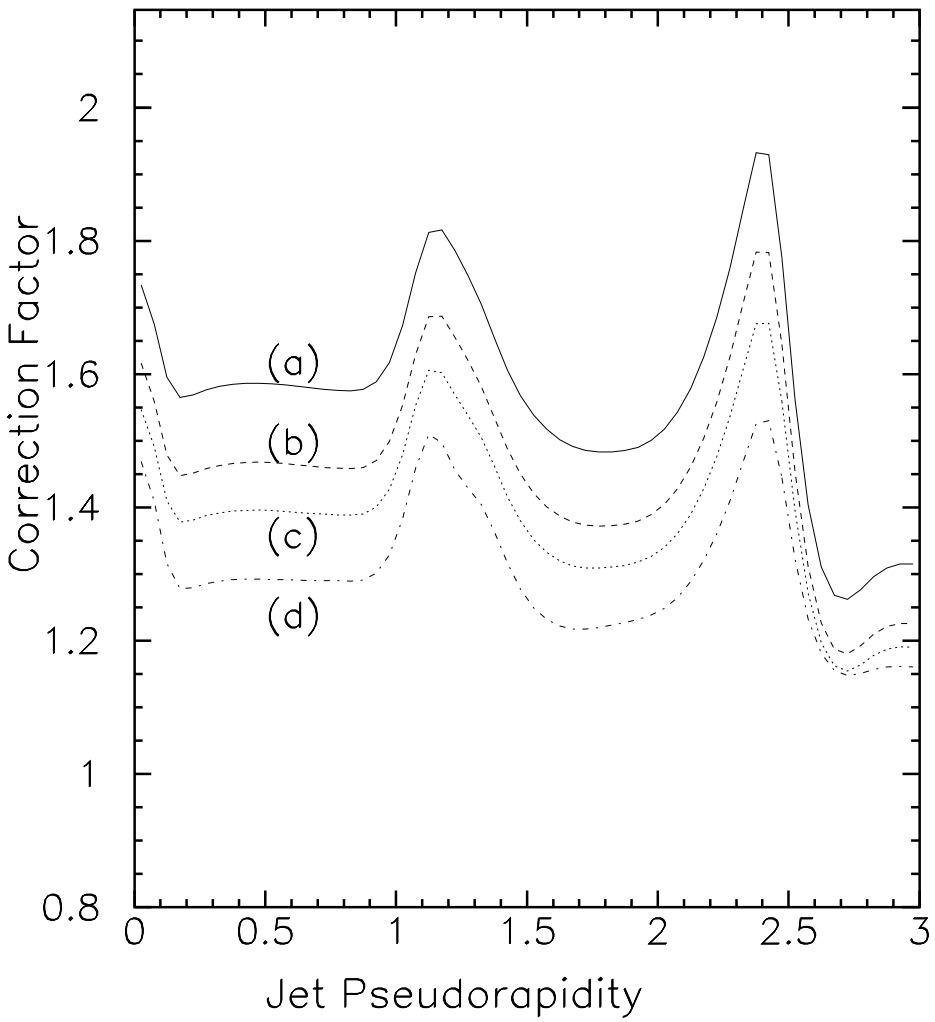


FIG. 100. Campagnari and Franklin

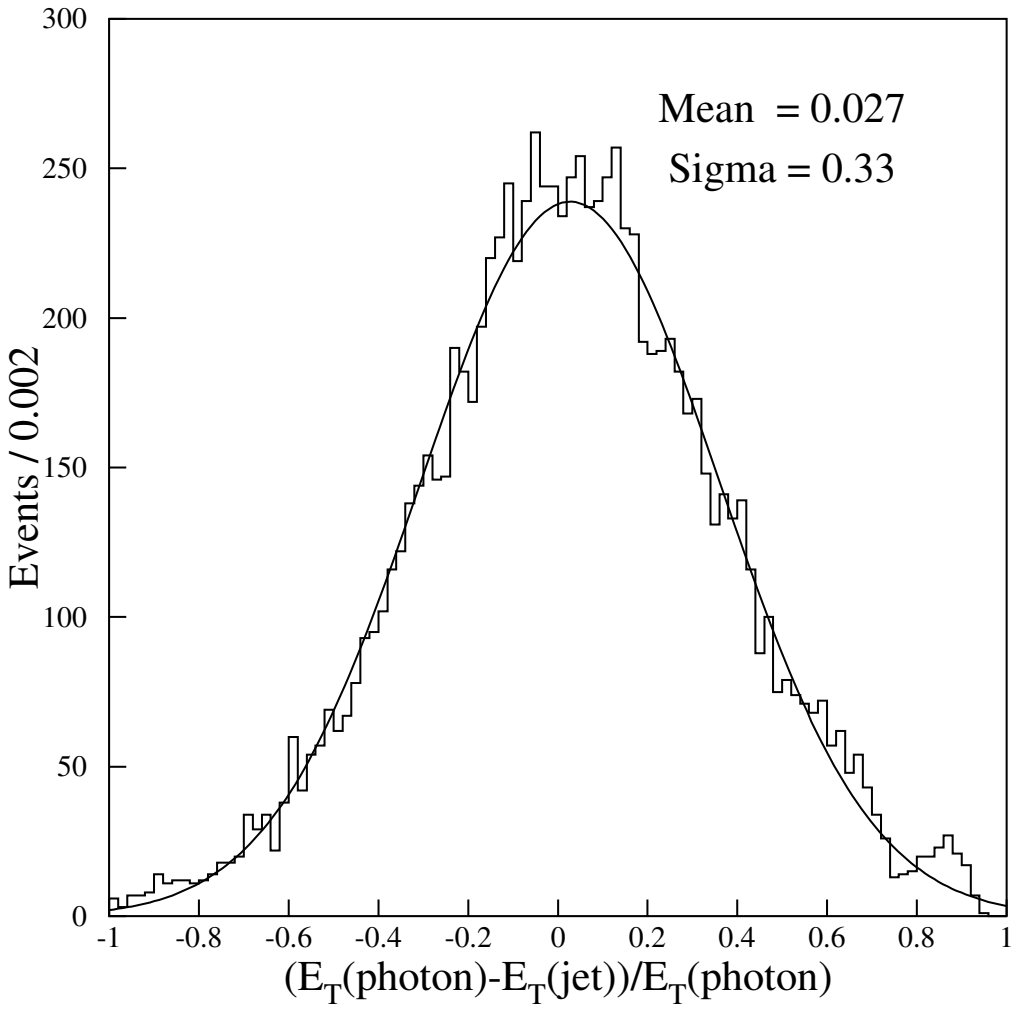


FIG. 101. Campagnari and Franklin

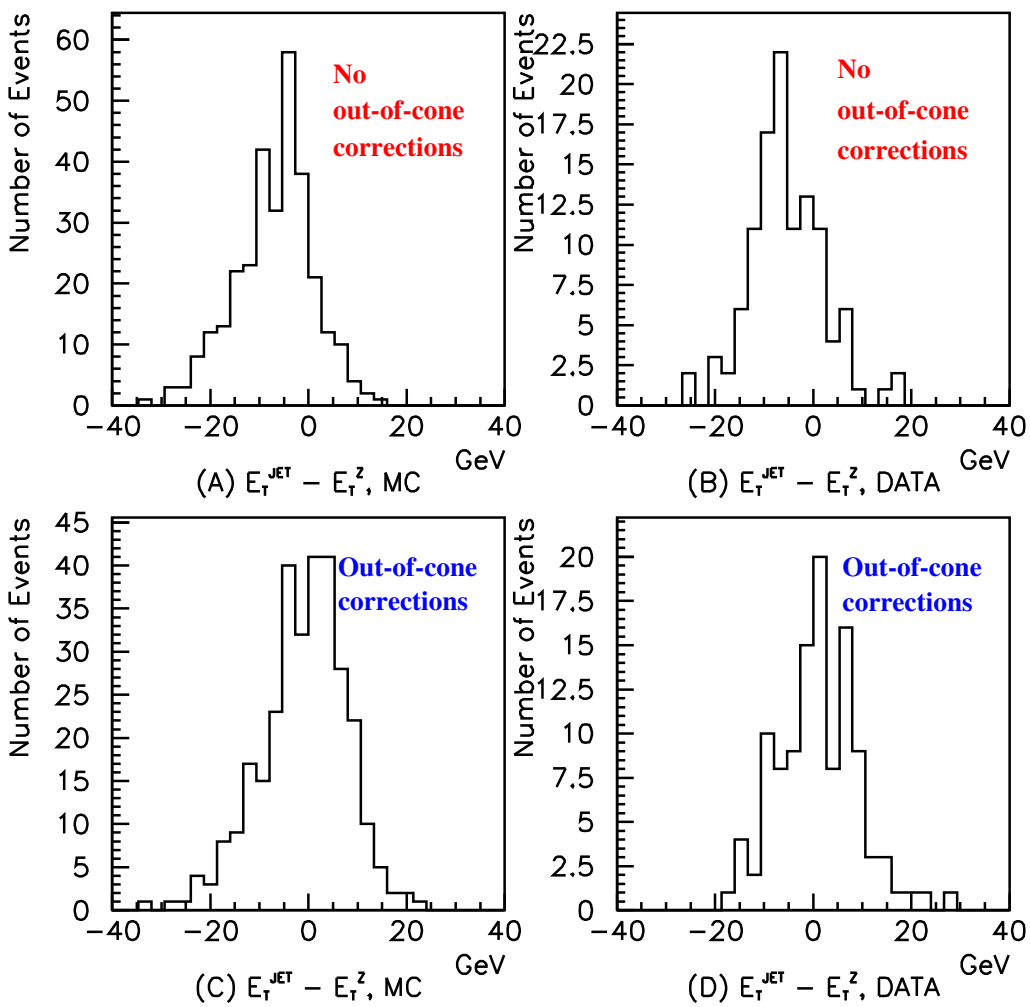


FIG. 102. Campagnari and Franklin

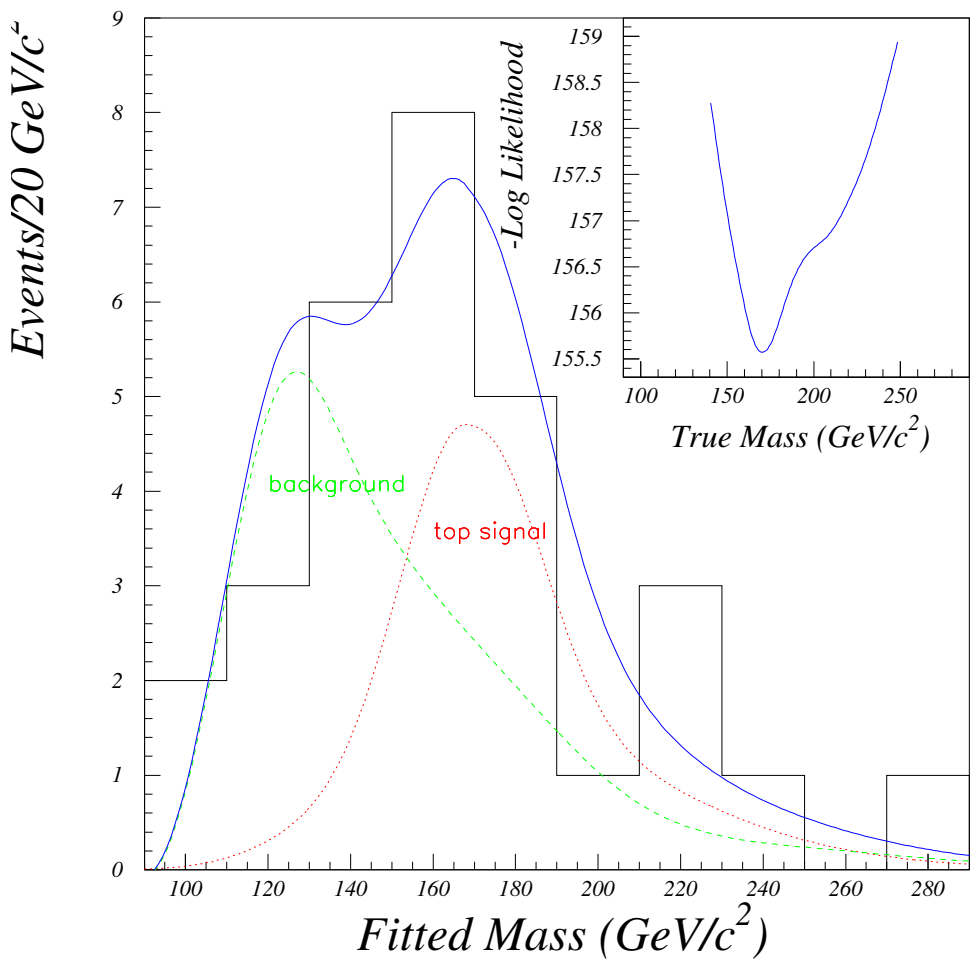


FIG. 103. Campagnari and Franklin

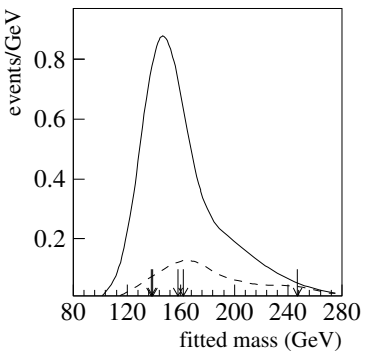


FIG. 104. Campagnari and Franklin

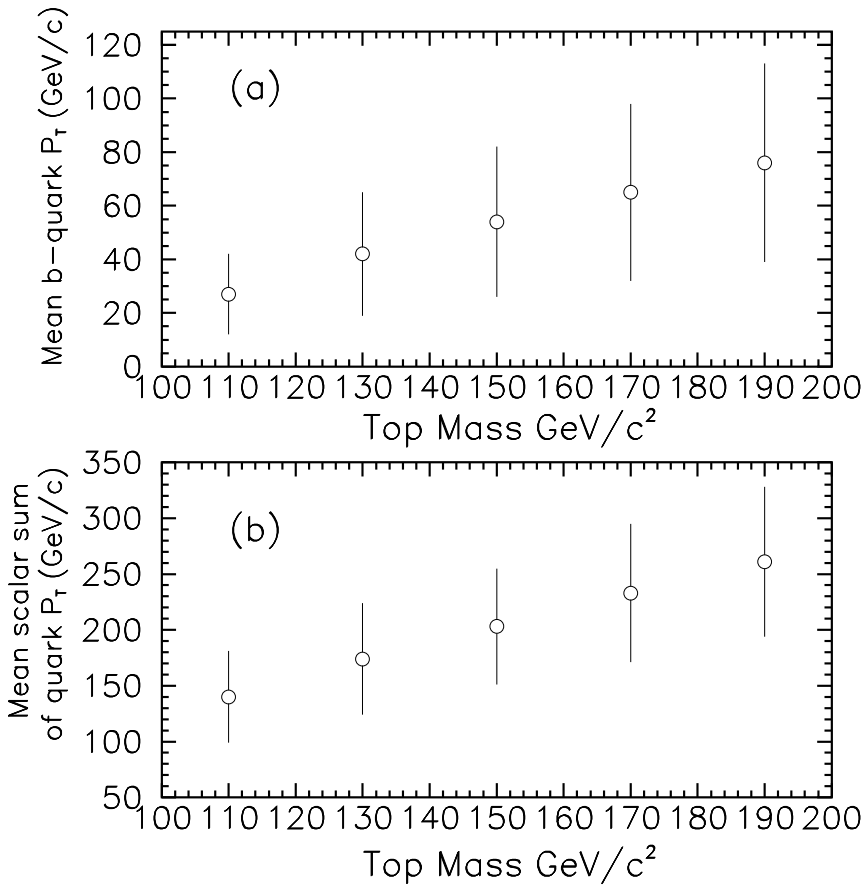


FIG. 105. Campagnari and Franklin

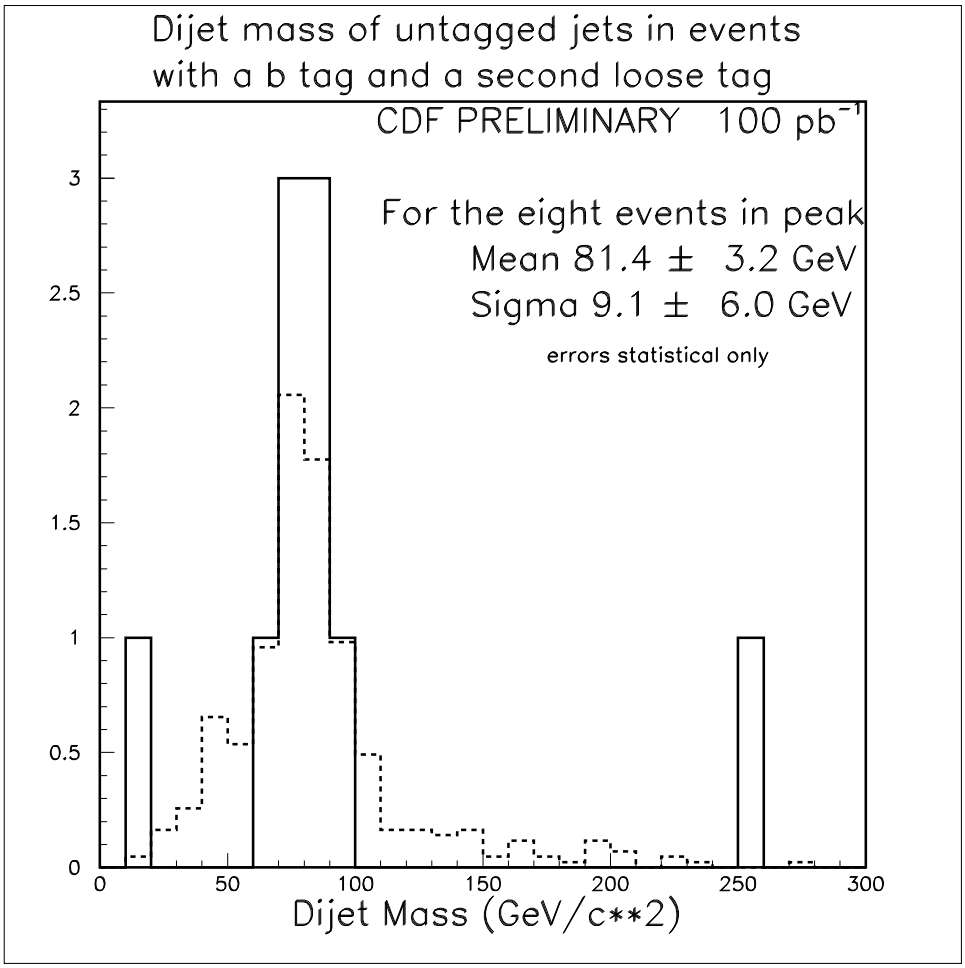
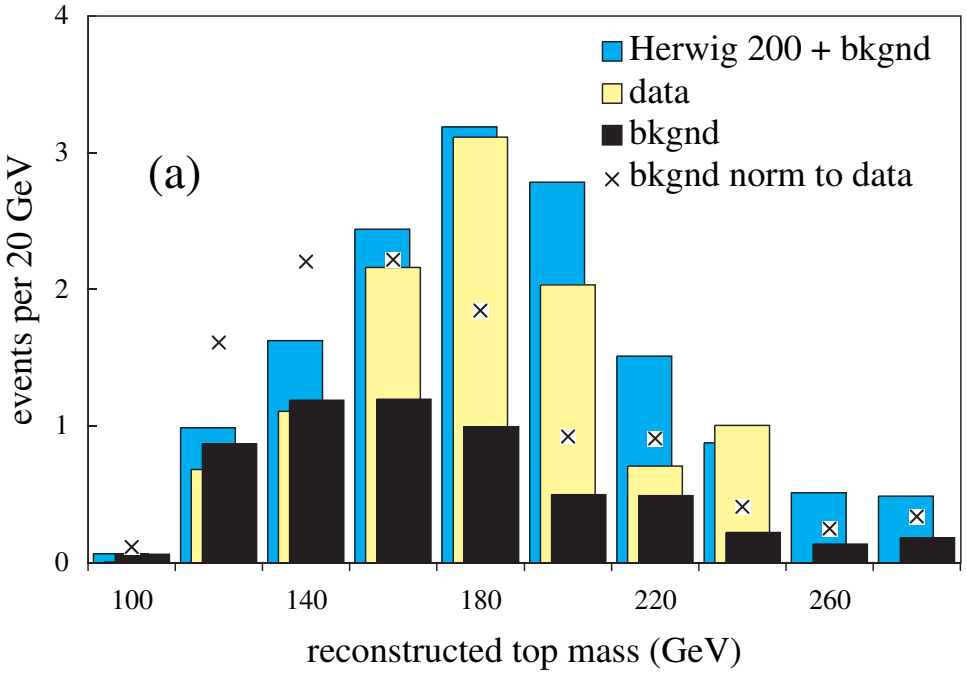


FIG. 106. Campagnari and Franklin



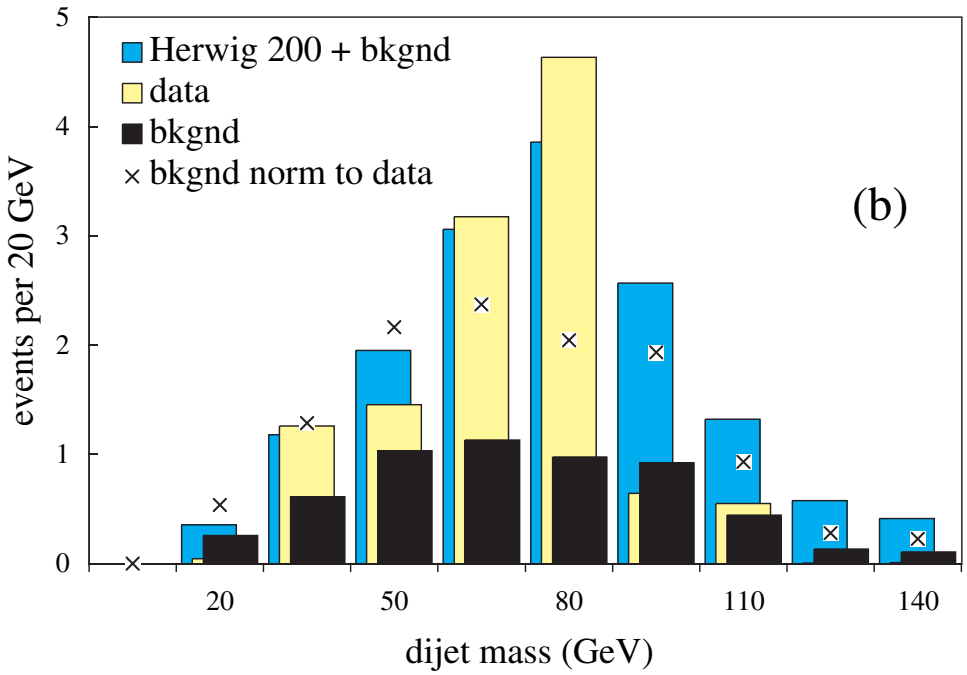


FIG. 107. Campagnari and Franklin

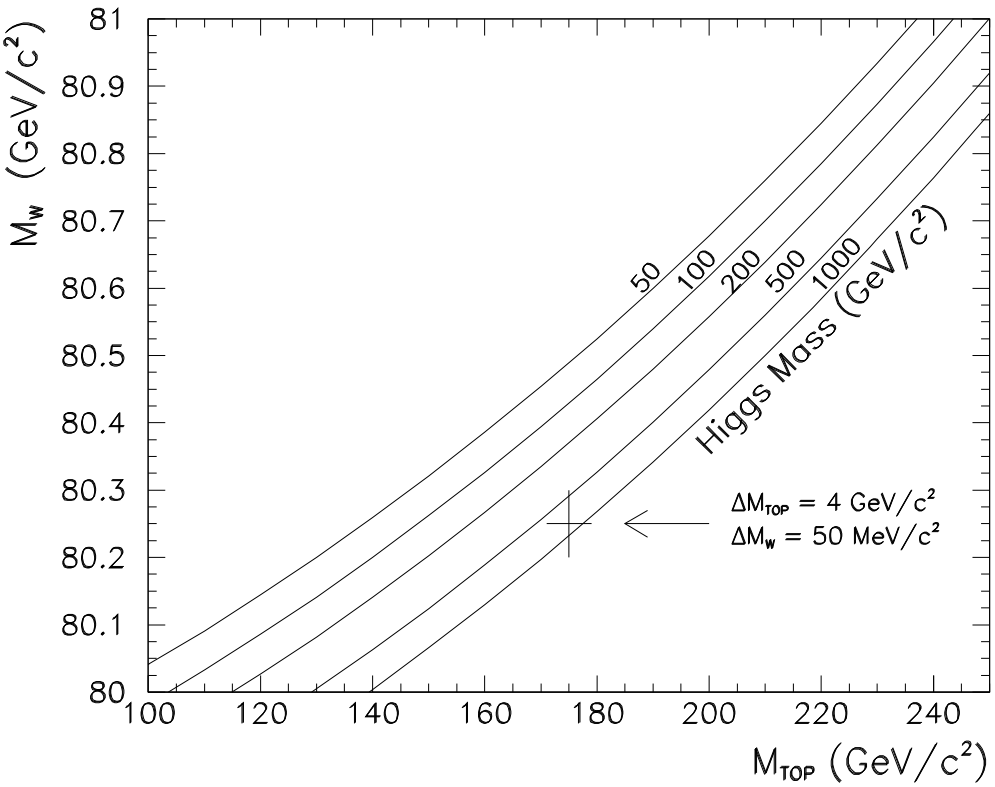


FIG. 108. Campagnari and Franklin

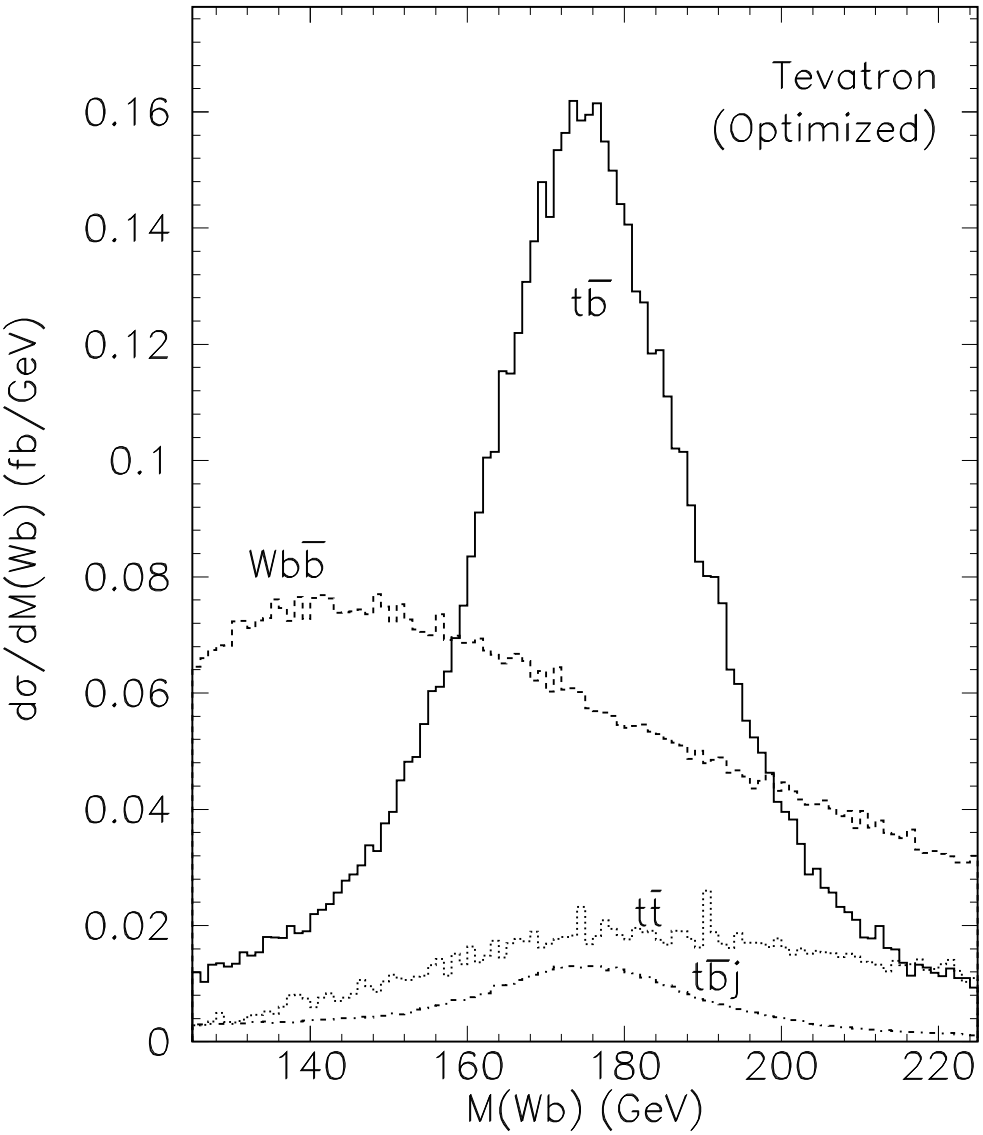


FIG. 109. Campagnari and Franklin

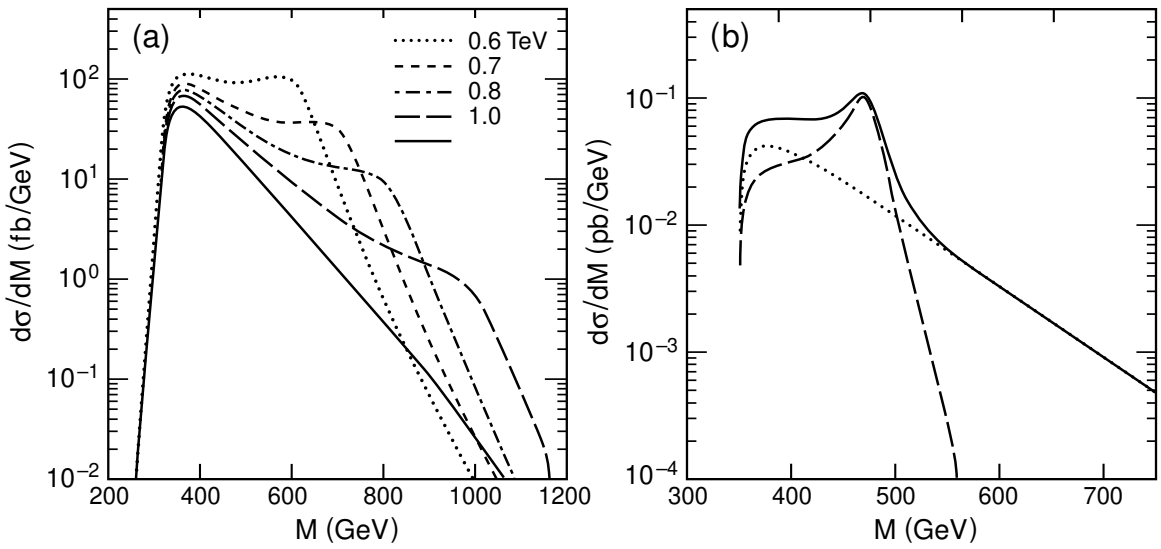


FIG. 110. Campagnari and Franklin

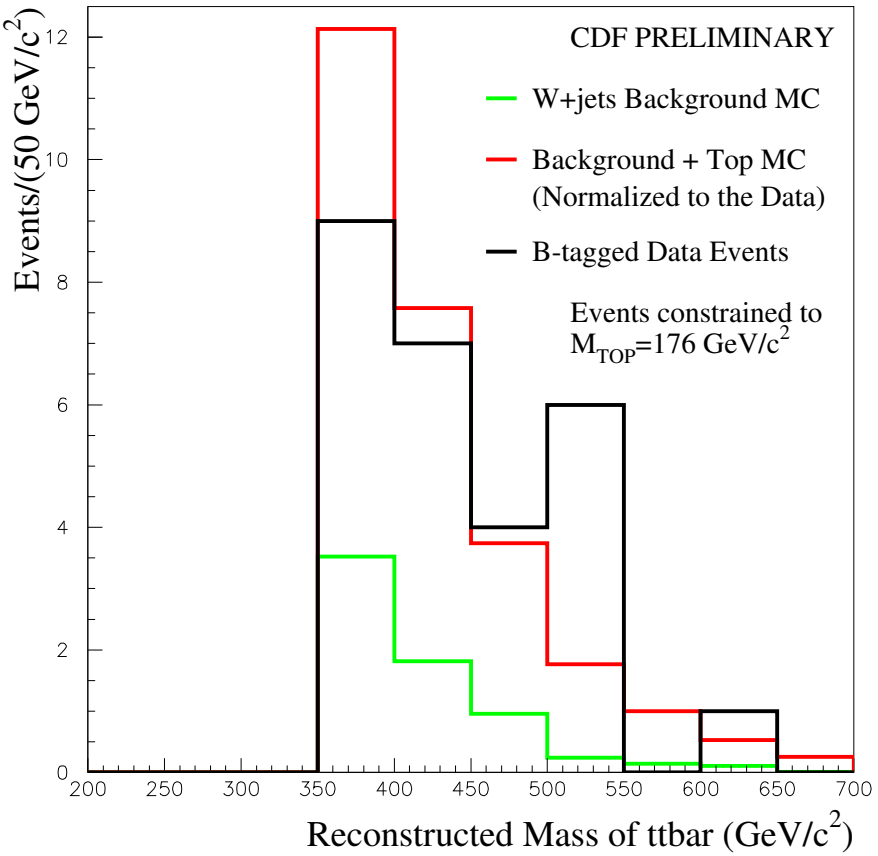


FIG. 111. Campagnari and Franklin

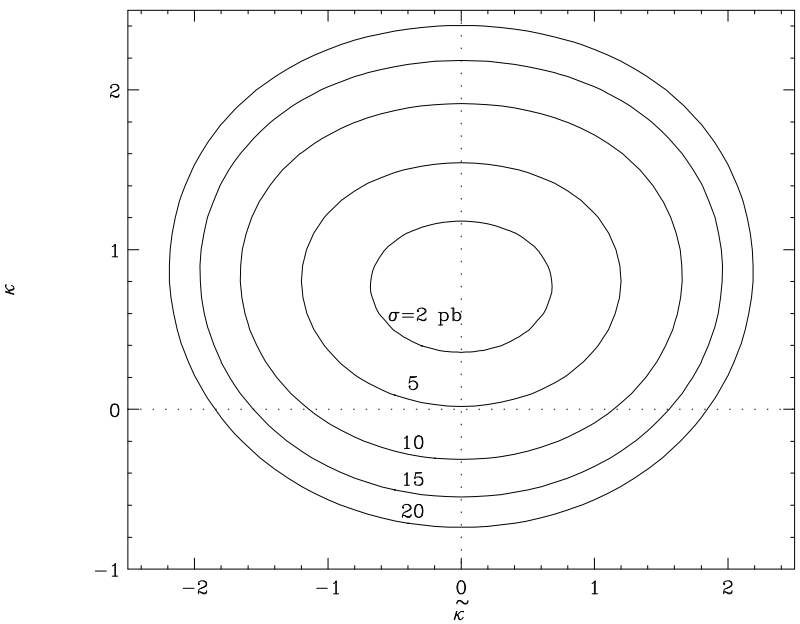


FIG. 112. Campagnari and Franklin

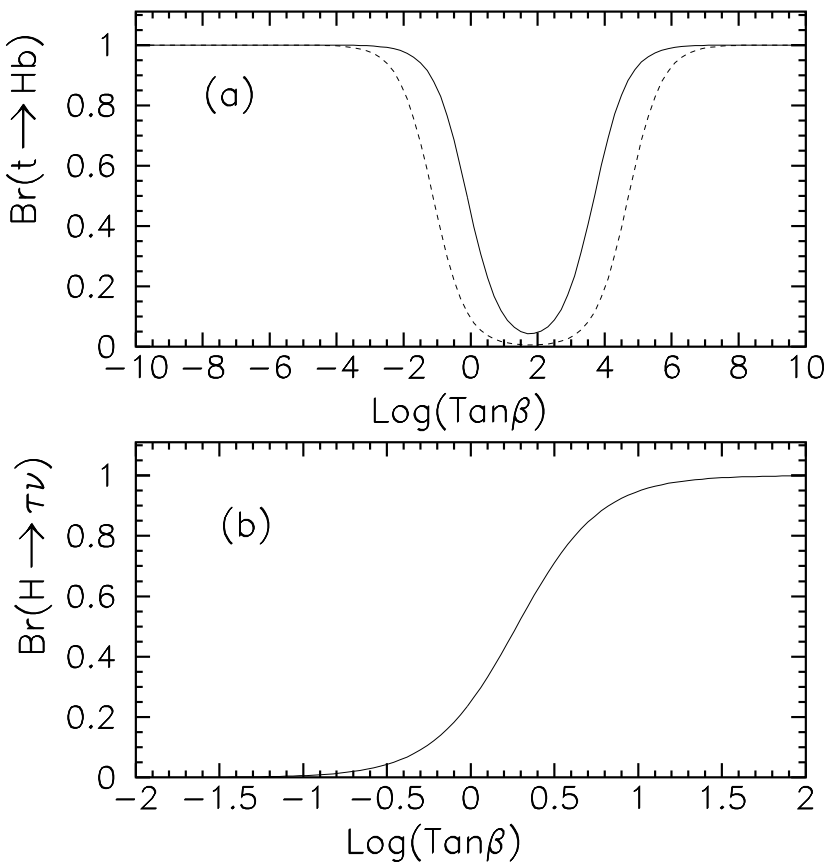


FIG. 113. Campagnari and Franklin

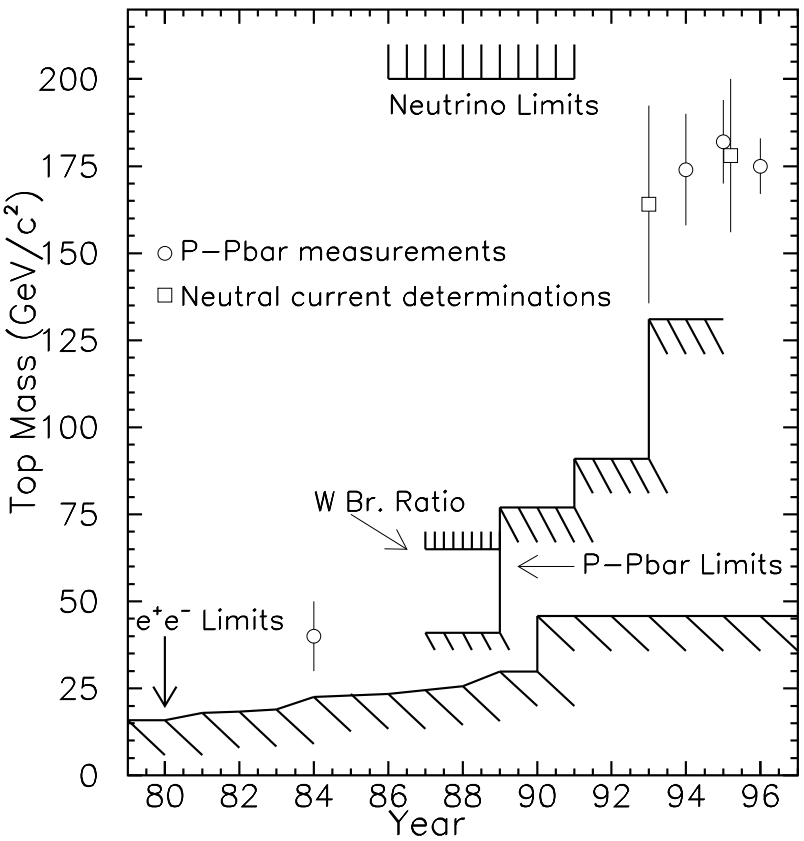


FIG. 114. Campagnari and Franklin