

Non-D Anti-D Decays of the ψ' (3770)

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BY

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THESIS

**Submitted in partial fulfillment of the requirements
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University of Illinois at Urbana-Champaign, 1993

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A search for inclusive non- $D\bar{D}$ decays of the $\Psi''(3770)$ is performed in a sample of $9.56 \pm 0.48 \text{ pb}^{-1}$ collected by the Mark III detector at the SPEAR storage ring, at the Stanford Linear Accelerator Center. To be more specific, a search for inclusive \bar{p} , $\bar{\Lambda}$, and ϕ decay modes of the $\Psi''(3770)$ is performed in this data sample. Backgrounds due to the decays of the radiatively produced $\Psi'(3686)$ are subtracted. Also backgrounds due to the production of the same final state by nonresonant e^+e^- annihilation are subtracted. After further background subtractions from D meson decays and particle misidentification and efficiency corrections no events are seen and upper limits are placed for each one of these decay channels.

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Table of Contents

Chapter 1 Motivation	1
1.1 Overview	1
1.2 The Charmonium Model	5
1.2.1 Spectroscopy	5
1.2.2 $^3S_1 - ^3D_1$ Mixing	7
1.2.3 Transition Rates	8
1.3 The Okubo - Zweig - Iizuka Rule.....	11
1.4 Scaling	14
Chapter 2 The Mark III Experiment and Data Processing	16
2.1 Introduction	16
2.2 The Drift Chambers	19
2.3 The Time of Flight System	23
2.4 The Shower Counters	26
2.5 The Magnet.....	28
2.6 The Muon System.....	28
2.7 The Event Trigger	29
2.8 The Data Samples	31
2.9 Monte Carlo Event Generators	31
2.10 The Filter	32
2.11 Drift Chamber Reconstruction.....	33
2.12 Time of Flight Reconstruction.....	35
2.13 Shower Counter Reconstruction	36
2.14 The Muon Detector Reconstruction	38

Chapter 3	$\Psi(3686)$ Normalization	39
3.1	Introduction	39
3.2	Event Selection	40
3.3	Particle Id	41
3.3.1	Using the Muon System	41
3.3.2	Using the E/P Method	42
3.4	Kinematic Fits to the Desired Final State	42
3.5	Detection Efficiency	47
3.6	Determining the Number of $\Psi(3686)$	54
3.7	Results	61
Chapter 4	Four Pion Production	62
4.1	Introduction	62
4.2	General Event Selection	63
4.3	Particle Identification	63
4.4	Event Momentum, Energy, and Kinematic Fits to $\pi^+\pi^-\pi^+\pi^-$	64
4.5	$\Psi\pi^+\pi^-$ Background	68
4.5.1	Using the Radiative Ψ' Production Monte Carlo	72
4.5.2	Searching for $\gamma\Psi\pi\pi$ events among the $\pi^+\pi^-\pi^+\pi^-$ candidates	72
4.6	Results	75
Chapter 5	Inclusive Anti-proton Production	76
5.1	Introduction	76
5.2	Event and Track Selection	76
5.3	Proton Reconstruction	78
5.4	Proton Identification	78
5.5	Calculating the Number of Protons from Ψ'' Decays	85
5.6	Proton Detection Efficiencies	87
5.6.1	Efficiency Ratios at the Two Energies	87
5.7	Backgrounds	89
5.7.1	Decays of the $\Psi(3686)$	89
5.7.2	Decays of D Mesons	92

5.7.3	Misidentified Tracks	92
5.7.4	Continuum Production	97
5.8	Results	98
5.8.1	The Scaling Variables	99
5.8.2	Comparison With the Lund Monte Carlo.....	102
5.8.3	Determining the Branching Fraction	102

Chapter 6 Inclusive Λ Production..... 104

6.1	Introduction	104
6.2	$\bar{\Lambda}$ Reconstruction	104
6.2.1	Event and Track Selection	104
6.2.2	Proton and Pion Track Reconstruction	105
6.3	Proton Identification	115
6.4	$\bar{\Lambda}$ Reconstruction	115
6.5	Calculating the Number of Λ 's from Ψ'' Decays	118
6.6	Overall Λ Detection Efficiency	120
6.6.1	Efficiency Ratios at the Two Center of Mass Energies.....	123
6.7	Determining the Number of Λ 's.....	123
6.8	Results	127
6.8.1	The Scaling Variables	129
6.8.2	Comparison With the Lund Monte Carlo.....	132
6.8.3	Determining the Branching Fraction	133

Chapter 7 Inclusive ϕ Production 134

7.1	Introduction	134
7.2	Event and Track Selection	134
7.3	Reconstructing ϕ daughter tracks	136
7.4	Kaon Identification	140
7.5	ϕ Reconstruction	142
7.6	Calculating the Number of ϕ 's from Ψ'' Decays	142
7.7	Overall ϕ Detection Efficiency	145
7.7.1	Efficiency Ratios at the Two Center of Mass Energies.....	148
7.8	Determining the Number of ϕ 's.....	148
7.9	ϕ 's From Decays of D Mesons	151

7.10 Results	154
7.10.1 The Scaling Variables	155
7.10.2 Comparison With the Lund Monte Carlo.....	158
7.10.3 Determining the Branching Fraction	159
Chapter 8 Conclusions.....	160
8.1 Backgrounds	160
8.2 Upper Limits Summary	161
References.....	163
Vita	166