Contribution ID: **1211** Type: **Parallel Session Talk**

Studies of Upsilon Decays at Belle

Friday, 23 July 2010 17:05 (18 minutes)

- Measurement of Upsilon(5S) decays to B0 and B+ mesons Decays of the Upsilon(5S) resonance to channels with B+ and B0 mesons are studied using a 23.6 fbˆ-1 data sample collected with the Belle detector at the KEKB asymmetric-energy e+e- collider. Fully reconstructed B+ -> J/psi K+, B0 -> J/psi K*0, B+ -> Dbar0 pi+ and B0 -> D- pi+ decays are used to obtain the charged and neutral Bproduction rates per b-bbar event, f(B+) = (72.1 ˆ(+3.9)*(-3.8) +/- 5.0)% and f(B0) = (77.0 ˆ+(5.8)(-5.6) +/-6.1)%. Assuming equal rates to B+ and B0 mesons in all channels produced at the Upsilon(5S) energy, we measure the fractions for transitions to two-body and three-body channels with B meson pairs, f(B-Bbar) = (5.5ˆ(+1.0)_(-0.9)+/- 0.4)%, f(B Bbar+BBbar) = (13.7 +/- 1.3 +/- 1.1)%, f(B Bbar) = (37.5ˆ(+2.1)_(-1.9) +/- 3.0)%, f(B Bbar pi) = (0.0 +/- 1.2 +/- 0.3)%, f(BBbar pi+BBbar pi) = (7.3ˆ(+2.3)_(-2.1) +/- 0.8)%, and f(B Bbar* pi) = (1.0ˆ(+1.4)_(-1.3) +/- 0.4)%. The latter three fractions are obtained assuming isospin conservation.

*Observation of an enhancement in e+e- -> Upsilon(1S) pi+ pi-, Upsilon(2S) pi+ pi-, and Upsilon(3S) pi+ pi- production around sqrt(s)=10.89 GeV at Belle
We measure the production cross sections for e+e- -> Upsilon(1S) pi+ pi-, Upsilon(2S) pi+ pi-, and Upsilon(3S) pi+ pi- as a function of sqrt(s) between 10.83 GeV and 11.02 GeV. The data consists of 8.1 fbˆ-1 collected with the Belle detector at the KEKB e+e- collider. We observe enhanced production in all three final states that does not conform well with the conventional Upsilon(10860) lineshape.

- Search for Upsilon(2S) -> eta_b gamma and Upsilon(2S) -> eta Upsilon The Belle experiment has integrated a record sample of 160M Upsilon(2S) decays on the resonant peak. First results of searches for rare radiative transitions (Upsilon(2S) -> eta_b(1S) gamma and chi_b0(1P) -> Upsilon(1S) gamma), and the hadronic transition Upsilon(2S) -> eta Upsilon will be presented.

Primary author: THE BELLE COLLABORATION

Presenter: VERZETTI, Mauro (INFN Torino)

Session Classification: 04 - Hadronic Structure, Parton Distributions, soft QCD, Spectroscopy

Track Classification: 04 - Hadronic Structure, Parton Distributions, soft QCD, Spectroscopy