

INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS
AMSTERDAM 2002

Abstract ID=ABS552

Heavy quark mesons and baryons (incl. lattice calculations)

Hadron spectroscopy and exotics (experiment and theory)

Experiment: BES Collaboration

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$\psi(2S)$ Resonance Parameters

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Abstract

A detailed scan of the $\psi(2S)$ has been carried out by the Beijing Spectrometer experiment (BES). Using approximately three million events distributed over 24 energy points between 3.67 and 3.71 GeV, final states composed of e^+e^- , $\mu^+\mu^-$, $\pi^+\pi^-J/\psi$, and hadrons have been studied. The cross sections of these states have been measured and fitted to theoretical predictions, which take into account radiative corrections, including vacuum polarization, and the beam energy spread. The total decay width and partial widths of $\psi(2S) \rightarrow \mu^+\mu^-$, $\pi^+\pi^-J/\psi$, and hadronic final states and the corresponding branching fractions are obtained.

Version 0

Date 2002-05-01 : 02:12:06'