

K-matrix Analysis of e^+e^- Annihilation in the Bottomonium Region

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We perform the first global and unitary analysis of $e^+e^- \rightarrow b\bar{b}$ cross sections. We analyze exclusive cross sections in the $B\bar{B}$, $B^*\bar{B}^*$, $B_s^*\bar{B}_s^*$, $Y(nS)\pi^+\pi^-$ and $hb(nP)\pi^+\pi^-$ channels as well as the total inclusive cross section for $b\bar{b}$ production. Pole positions and residues are determined for four vector states, which we associate with the $Y(4S)$, $Y(10750)$, $Y(5S)$ (or $Y(10860)$), and $Y(6S)$ (or $Y(11020)$). We find strong evidence for the new $Y(10750)$ recently claimed by Belle.

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