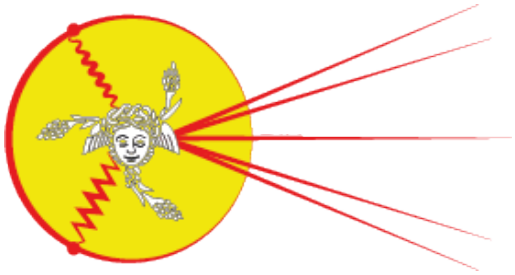

ID contributo: **96** Tipo: **non specificato**

# Estimating the branching fraction for $B^0 \to \psi(2S)\pi^0$ decay

*mercoledì 7 settembre 2016 10:20 (20 minuti)*

I present estimates of the branching fractions in the non-leptonic charmonium two-body decay rates for $B^0 \to \psi(2S)\pi^0$ decay and the same decays of $B^+ \to \psi(2S)\pi^+$, $B^0 \to \psi(2S)K^0$ and $B^+ \to \psi(2S)K^+$.
These estimates are based on a generalized factorization approach making use of leading order (LO) and next-to-leading order (NLO) contributions. I find that when the large enhancements from the known NLO contributions by using the QCD factorization approach are taken into account, the branching ratios are the following:
$Br(B^0 \to \psi(2S)\pi^0) = (1.067 \pm 0.059) \times 10^{-5}$,
$Br(B^+ \to \psi(2S)\pi^+) = (2.134 \pm 0.0.118) \times 10^{-5}$,
$Br(B^0 \to \psi(2S)K^0) = (6.344 \pm 0.376) \times 10^{-4}$ and
$Br(B^+ \to \psi(2S)K^+) = (6.344 \pm 0.376) \times 10^{-4}$,
while the experimental results are $(1.17 \pm 0.17) \times 10^{-5}$, $(2.44 \pm 0.30) \times 10^{-5}$, $(6.20 \pm 0.50) \times 10^{-4}$ and $(6.39 \pm 0.33) \times 10^{-4}$ respectively. All estimates are in good agreement with the experimental results.

**Autore principale:** MOHAMMADI, Behnam (Urmia University)

**Relatore:** MOHAMMADI, Behnam (Urmia University)

**Classifica Sessioni:** Progress in QCD (III)

**Classificazione della track:** Progress in QCD