

Kloe results on Φ radiative decays

Kloe Collaboration

The Kloe experiment at the Frascati Φ -Factory DAPHNE has new results on the radiative decays of the Φ resonance into the scalar mesons $f_0(980)$ and $a_0(980)$ and into the pseudoscalar mesons η and $\eta'(958)$. They greatly improve on the PDG status of the field.

The scalar mesons f_0 and a_0 have been detected via the decay modes into $\pi^0\pi^0$ and $\eta\pi^0$ respectively; absolute values of the branching ratios as well fits of the $\pi^0\pi^0$ and $\eta\pi^0$ invariant mass spectra will be presented. The results bear information on the controversial nature of these scalar states (qq, 4q or KK molecule) [1,2].

The Φ decay into $\eta\gamma$ and $\eta'\gamma$ has been looked for in the same final state of 5 γ 's which allows us to minimize systematic effects; the ratio of branching ratios is therefore obtained from which a value of the $\eta - \eta'$ mixing angle is derived as well as a limit on the glue content of the η' [3].

References

- [1] Kloe Collaboration (A. Aloiso et al), Phys. Lett. **B537** (2002) 21.
- [2] Kloe Collaboration (A. Aloiso et al), Phys. Lett. **B536** (2002) 209.
- [3] Kloe Collaboration (A. Aloiso et al), Phys. Lett. **B541** (2002) 45.