Analysis of $\eta \to \pi^+\pi^-\gamma$ measured with WASA at COSY

Christoph Florian Redmer[(a)] for the WASA-at-COSY collaboration

[(a)] Institut für Kernphysik and Jülich Center for Hadron Physics, D-52425 Jülich, Germany

The decay $\eta \to \pi^+\pi^-\gamma$ is driven by the box anomaly of the chiral Lagrangian. Precise studies of the two pion system allow for tests of Chiral Pertubation Theory and its unitarized extensions, as e.g. VMD [1] or the chiral unitary approach [2].

WASA-at-COSY collected data in October 2008, producing η mesons in the reaction $pd \to {}^3\mathrm{He}\eta$. About $10^7\eta$ mesons have been recorded, tagged only by the registration of the ^{3}He ions. In this presentation the analysis of these data with respect to the $\eta \to \pi^+\pi^-\gamma$ decay will be discussed.

[1] B. R. Holstein, Phys. Scr. T99, 55-67, 2002.

[2] B. Borasoy and R. Nissler, Nucl. Phys. A740, 362-382, 2004.

E-mail: c.redmer@fz-juelich.de