

# Dielectron pairs from $\eta$ meson decays at WASA detector

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## Collaboration

WASA-at-COSY

## Abstract content

We present the analysis of  $\eta \rightarrow e^+e^-\gamma$ ,  $\eta \rightarrow e^+e^-$  and  $\eta \rightarrow \pi^0 e^+e^-$  decays. Our data set was collected in proton-proton collisions at 1.4 GeV using the WASA-at-COSY experimental setup. We discuss the extraction procedure of the  $\eta$  meson transition form factor and show an attempt to search for physics beyond the Standard Model setting an upper limit on the coupling between photons and hypothetical dark boson. Estimates of branching ratio upper limits for very rare  $\eta \rightarrow e^+e^-$  and  $\eta \rightarrow \pi^0 e^+e^-$  decays are also presented.

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