



Contribution ID: 48

Type: **Talk**

## Search for an invisible vector boson from $\pi^0$ decays at NA62

*Friday, 13 September 2019 11:40 (20 minutes)*

The high-intensity setup, trigger system flexibility, and detector performance –high-frequency tracking of beam particles, redundant PID, ultra-high-efficiency photon vetoes –make NA62 particularly suitable for searching for new-physics effects from different scenarios. We report the results of a search for  $\pi^0$  decays to one photon and an invisible massive dark photon. From a total of about 400\$ million  $\pi^0$  decays, no signal is observed beyond the expected fluctuation of the background and limits are set in the plane of the dark photon coupling to ordinary photon versus dark photon mass.

**Primary author:** CENCI, Patrizia (INFN Perugia (IT))

**Presenter:** SPADARO, Tommaso (INFN e Laboratori Nazionali di Frascati (IT))

**Session Classification:** New Physics