



Contribution ID: 123

Type: Oral presentation using Zoom

## Off diagonal charged scalar couplings with the $Z$ boson

*Wednesday, 27 October 2021 20:00 (20 minutes)*

Models with scalar doublets and charged scalar singlets have the interesting property that they have couplings between one  $Z$  boson and two charged scalars of different masses. This property is often ignored in phenomenological analysis, as it is absent from models with only extra scalar doublets. We explore this issue in detail, considering  $h \rightarrow Z\gamma$ ,  $B \rightarrow X_s\gamma$ , and the decay of a heavy charged scalar into a lighter one and a  $Z$  boson. We propose that the latter be actively searched for at the future collider experiments, using the scalar sector of the Zee-type models as a prototype and proposing benchmark points which obey all current experimental data.

### 1st preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

### 2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

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**Session Classification:** F&H-2: Higgs properties & BSM particle production

**Track Classification:** Parallel sessions: Topical Groups: Session F: Higgs properties