Contribution ID: **9** Type: **not specified**

Studies of exotic baryon structure via strangeness photoproduction at BGOOD

Thursday 4 April 2024 14:00 (30 minutes)

The existence of exotic multi-quark states beyond the conventional valence three quark and quark-antiquark systems has been unambiguously confirmed in the heavy quark sectors. Such states could manifest as single colour bound objects, or evolve from meson-baryon and meson-meson interactions, creating molecular like systems and re-scattering effects near production thresholds. Equivalent structures may be evidenced in the light, *uds* sector. This is investigated with the BGOOD photoproduction experiment at ELSA. BGOOD accesses low momentum (low t) exchange kinematics, which is ideal to study spatially extended, molecular-like baryon structure which may manifest in reaction mechanisms.

Our published results in the strangeness sector suggest a dominant role of meson-baryon dynamics which has an equivalence to the P_C states in the charmed sector. Highlights include structure in $K^0\Sigma^0$ and $K^+(\Lambda(1405) \rightarrow \pi^0\Sigma^0)$ photoproduction at K^*Y thresholds and new data for forward $K^+\Sigma^0(1385)$ photoproduction.

Supported by DFG projects 388979758/405882627 and the European Union's Horizon 2020 programme, grant 824093.

Author: Dr JUDE, Thomas (The University of Bonn)

Presenter: Dr JUDE, Thomas (The University of Bonn)

Session Classification: Session 6