

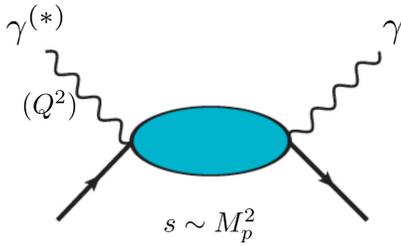


# Two-Photon Physics

“What proton is depends on how you look at it, or rather on how hard you hit it”  
(A. Cooper-Sarkar, CERN Courier, June, 2019)

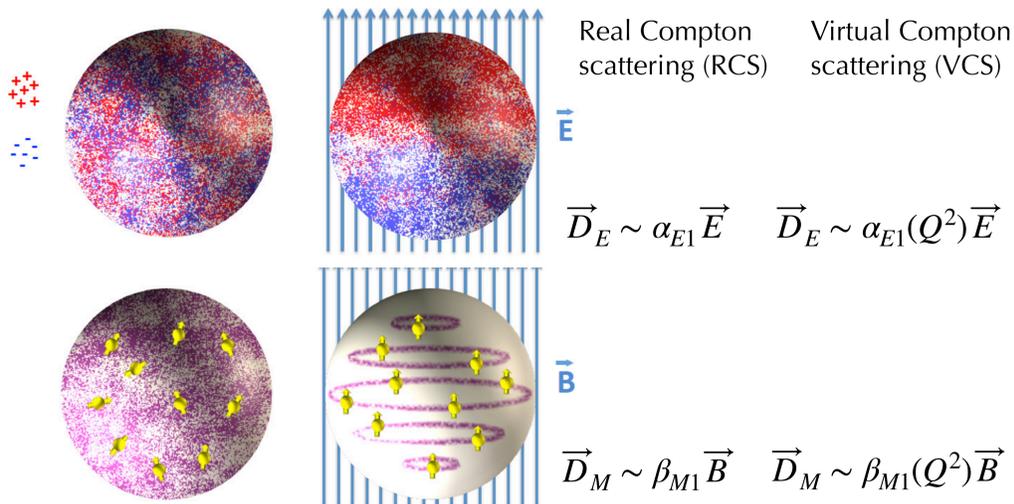
Alessio Carmelo Alvaro, Barbara Pasquini and Simone Rodini

## Real and Virtual Compton Scattering



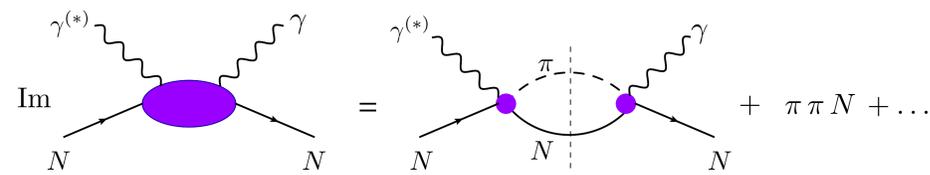
**Compton scattering at threshold:**  
probing the nucleon in a quasi-static electromagnetic field

Response functions:  
scalar and spin **POLARIZABILITIES**

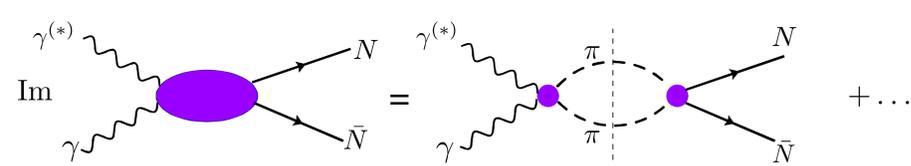


## Subtracted Dispersion Relations (sDRs)

• s-channel

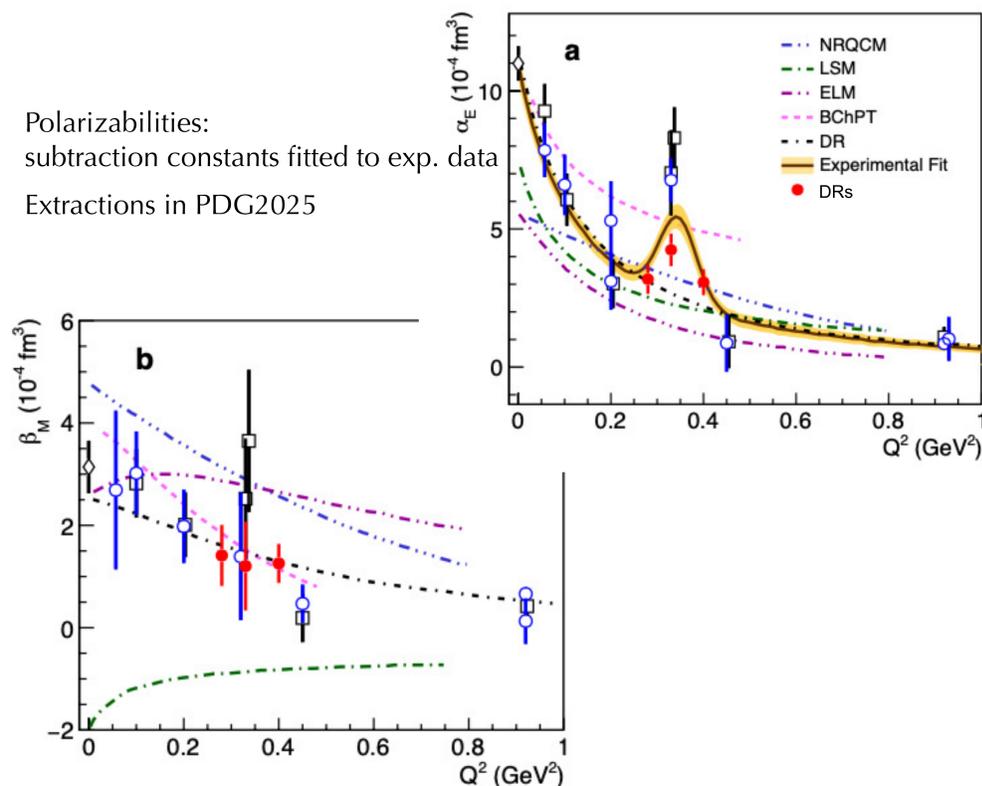


• t-channel

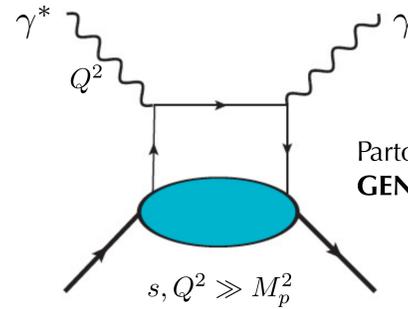


## Extraction of Polarizabilities

Polarizabilities:  
subtraction constants fitted to exp. data  
Extractions in PDG2025

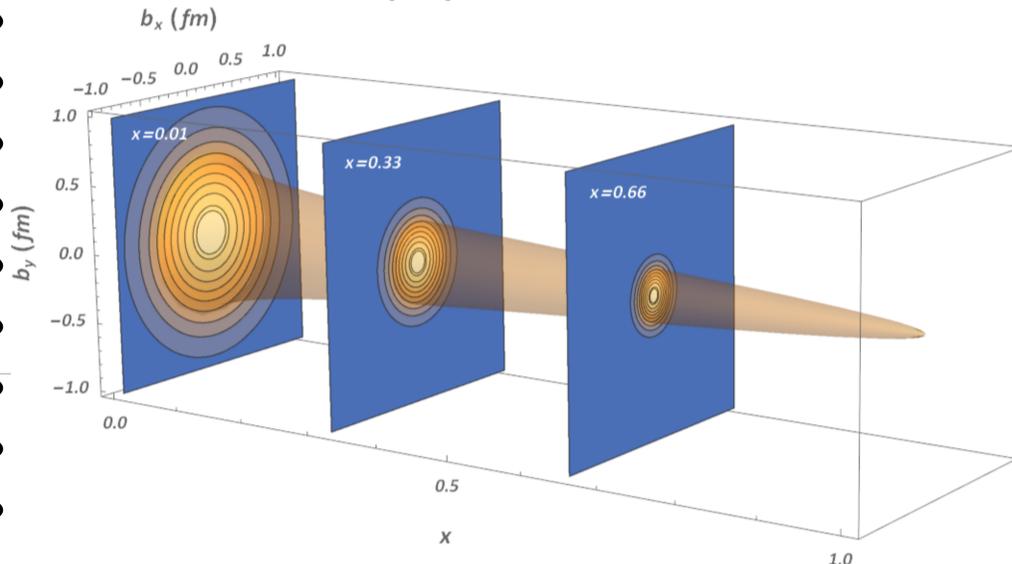


## Deeply Virtual Compton Scattering



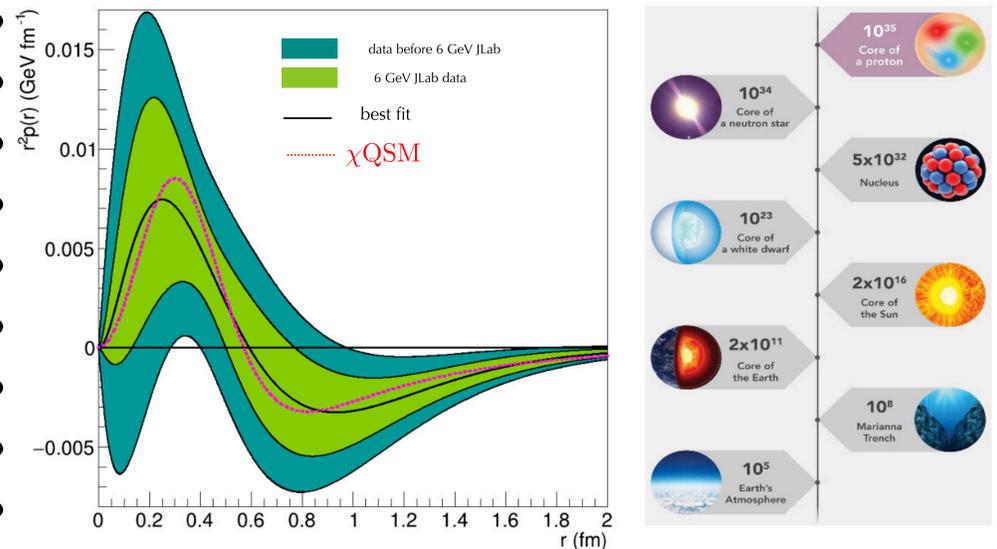
Partonic description in terms of  
**GENERALIZED PARTON DISTRIBUTIONS**

## 1+2D map of partons in the nucleon



## Form Factors of Energy Momentum Tensor

### Pressure distribution



## Proton mass decomposition

