

# Exclusive single-photon muoproduction at COMPASS

A. Ferrero

On behalf of the COMPASS Collaboration

CEA-Saclay/IRFU/SPhN  
E-mail address: andrea.ferrero@cea.fr

June 30, 2016

## Abstract

Investigation of GPDs and TMDs represents one of the major goals of the COMPASS-II program. Together, GPDs and TMDs provide the most complete description of the partonic structure of the nucleon.

GPDs are experimentally accessible via lepton-induced exclusive reactions, in particular DVCS and DVMP. At COMPASS, these processes are investigated using a 160 GeV high intensity muon beam and a 2.5 m long liquid hydrogen target. In order to optimize the selection of exclusive reactions at these energies, the target is surrounded by a new barrel-shaped time-of-flight system to detect the recoiling particles.

The pure DVCS cross-section and its  $|t|$ -dependence are extracted from the sum of cross-sections measured with opposite beam charges and polarizations. From this measurement, the first model-independent estimate of the transverse size of the nucleon in the uncharted  $x_{Bj}$  domain from 0.01 to 0.15 will be given.