

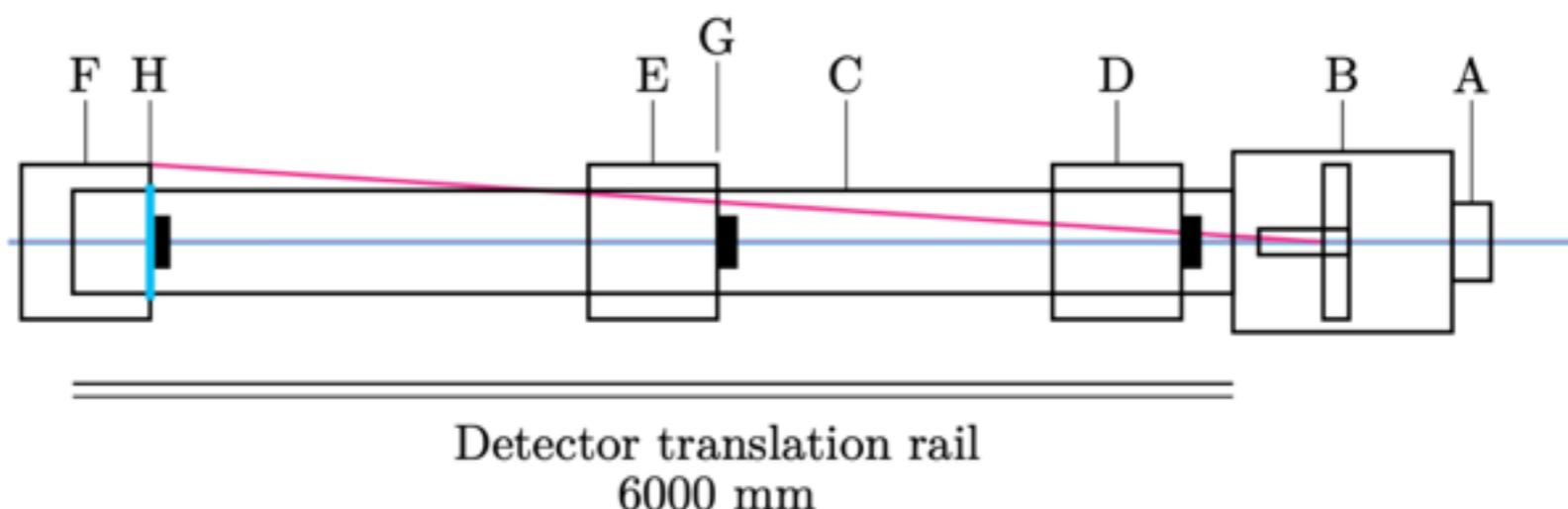
# SAS – Measures Information

## Introduction

Small-angle scattering (X-rays, neutrons) measures **how a structures distribute relative distances**, this information is passed through the instrument and detected.

$$\langle I(q) \rangle_{\Omega,t} - \text{Detector} - \text{Sample} | \text{Scattering} - \text{Instrument}$$

The measurement contains averaged **information**, not a picture (**phase is lost**). Strong structural correlations appear clearly in  $I(q)$ ; uncorrelated regions contribute diffuse. What we see is determined jointly by **structure + instrument** (beamstop, limited q-range, noise, resolution).



# SAXS – Measures Information

## Introduction

A – Collimators, B – Sample chamber (two sample positions (GISAXS, SAXS), C – 6 m vacuum flight tube, D – WAXS detector (with beamstop), E – SAXS detector (with beamstop), F – USAXS detector (with beamstop), G – PSL (primary scattering line), H – Q-vector (scattering direction marker)

