

# Synergy of numerical simulations and experimental measurements to improve the interpretation of negative ion beam properties

Numerical codes  
(interpretation of the experiments)

Sophisticated diagnostic techniques  
(real-time characterisation of the beam)

All known physics and engineering aspects  
simultaneously taken into account

Benchmark of modelling with experimental results  
⇒ extensive validation of numerical models

Understanding/identification of key physics processes

Inclusion of new physics aspects in numerical codes

Improvement of numerical models

Design of next-generation neutral  
beam injectors

