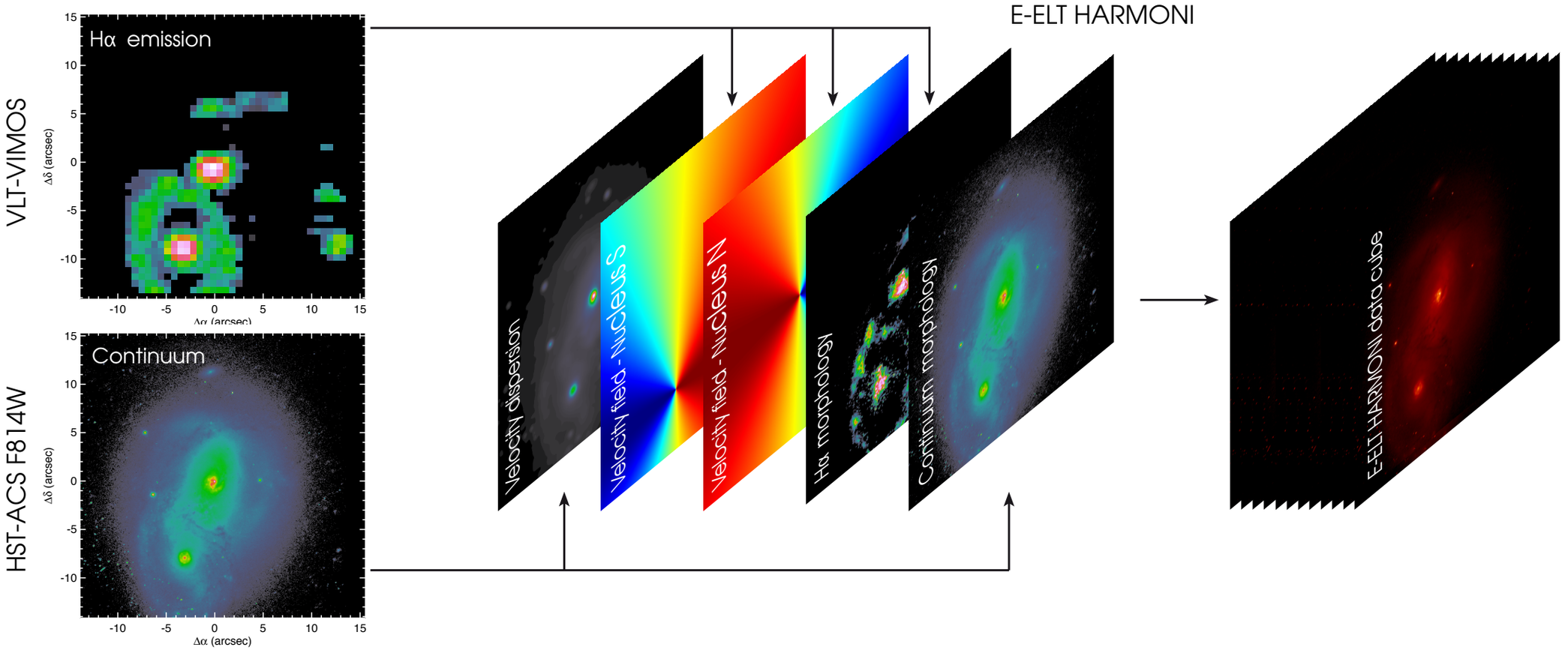
SIMULATED E-ELT HARMONI OBSERVATIONS OF z~2 ULIRGs

A FIRST ATTEMPT TO GENERATE AN INPUT DATA-CUBE FOR THE HARMONI SIMULATOR

CENTRO DE ASTROBIOLOGÍA
ASOCIADO AL NASA ASTROBIOLOGY INSTITUTE

J. Piqueras López, S. Cazzoli, S. Arribas

- GOAL: generate a realistic input data-cube of a ULIRG for the HARMONI simulator
- MAIN CHALLENGE: obtain a realistic recreation of the Hα morphology at very high-spatial resolution
  - INPUT DATA:
    - VLT-VIMOS (spatial scale ~0.67”):
      - Hα morphology and emission
      - Hα global velocity field
  - HST-ACS F814W (spatial scale ~0.05”):
    - Continuum morphology
    - Proxy for the velocity dispersion
  - OUTPUT:
    - E-ELT HARMONI z~0 data cube (590x590x250)
    - Spatial sampling: 50 mas
    - Spectral sampling: 0.4A



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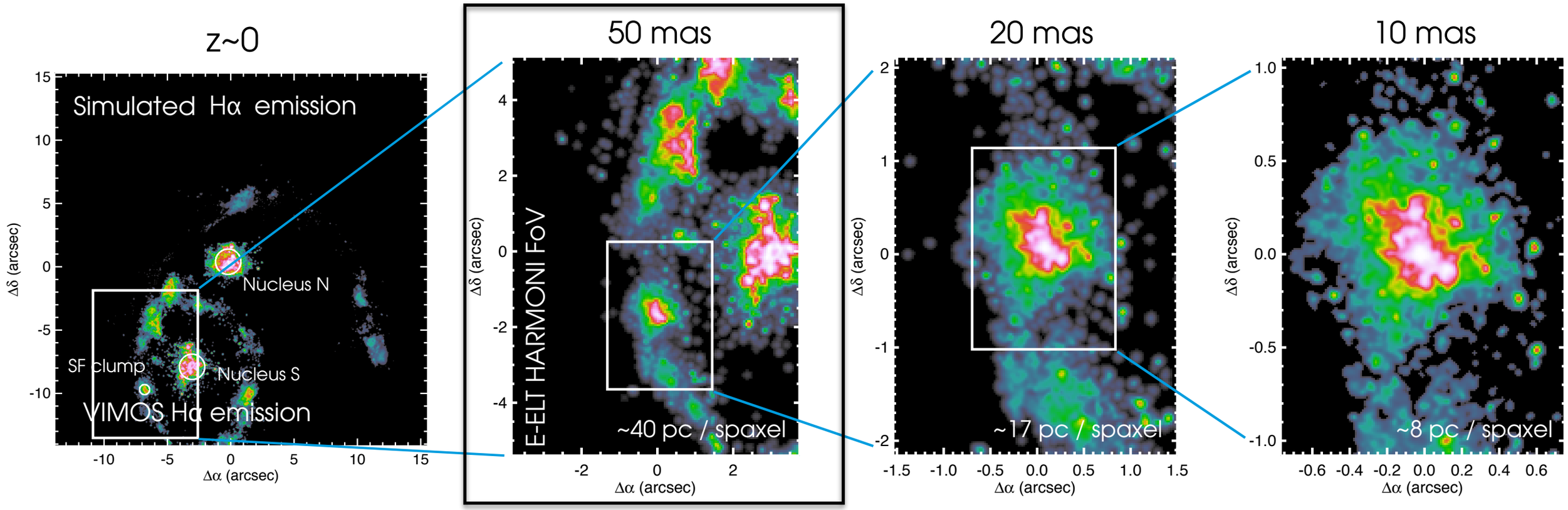
- E-ELT HARMONI SET UPs: Probing different spatial scales (and sensitivity)



5 mas @ z~2

- NEXT STEPS:
  - Improve the description of the gas morphology, kinematics…
  - Simulate observations at high-z
  - Run the data-cube through the simulator