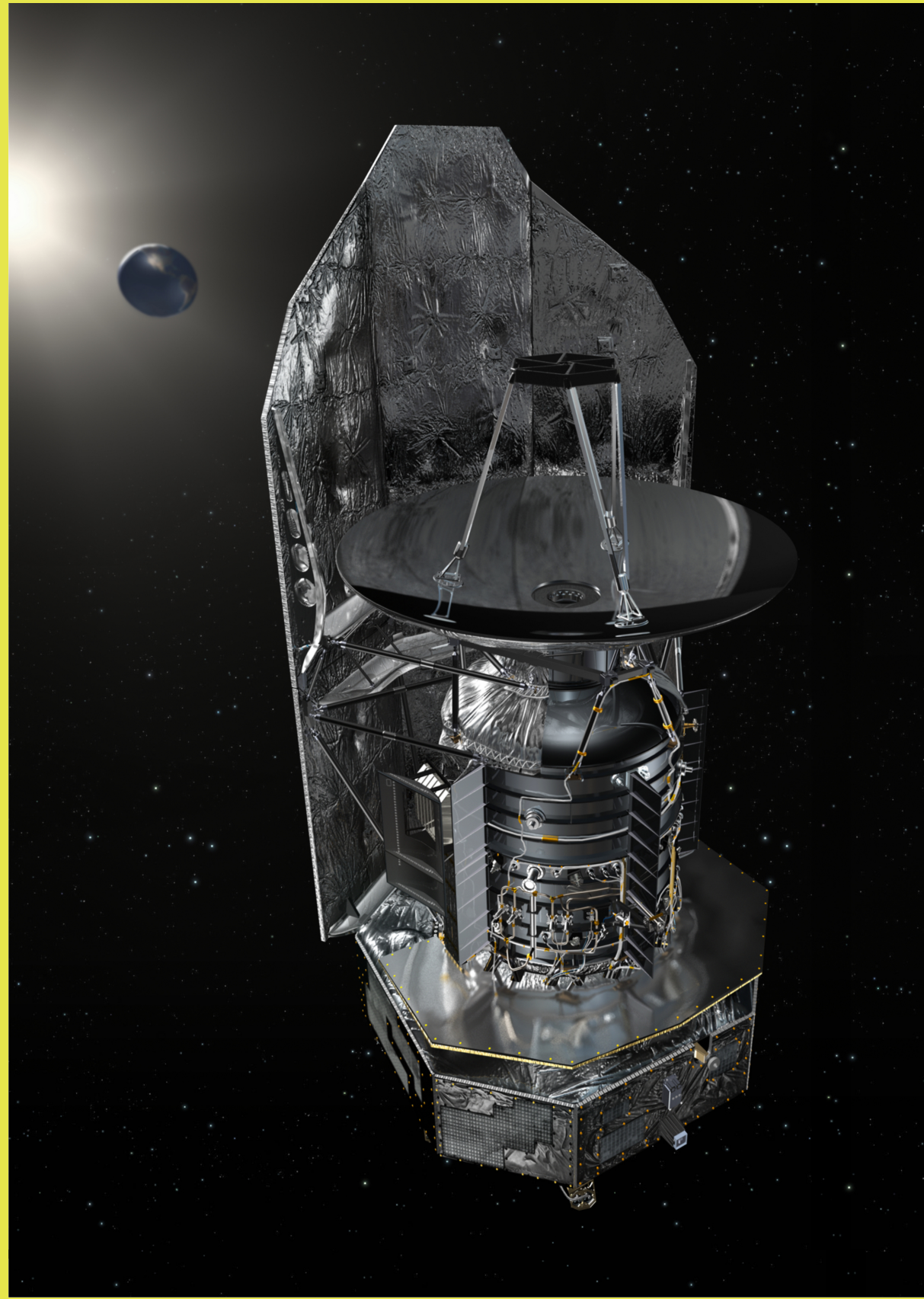


CO and H₂O observations of HH54 B

Per Bjerkeli, René Liseau, Michael Olberg, Carolyn McCoey, Teresa Giannini, Per Bergman, Henrik Olofsson, Gregory Herczeg, Brunella Nisini, Mario Tafalla et al.



. Analysis of HH54 B using Odin, SEST and Herschel data

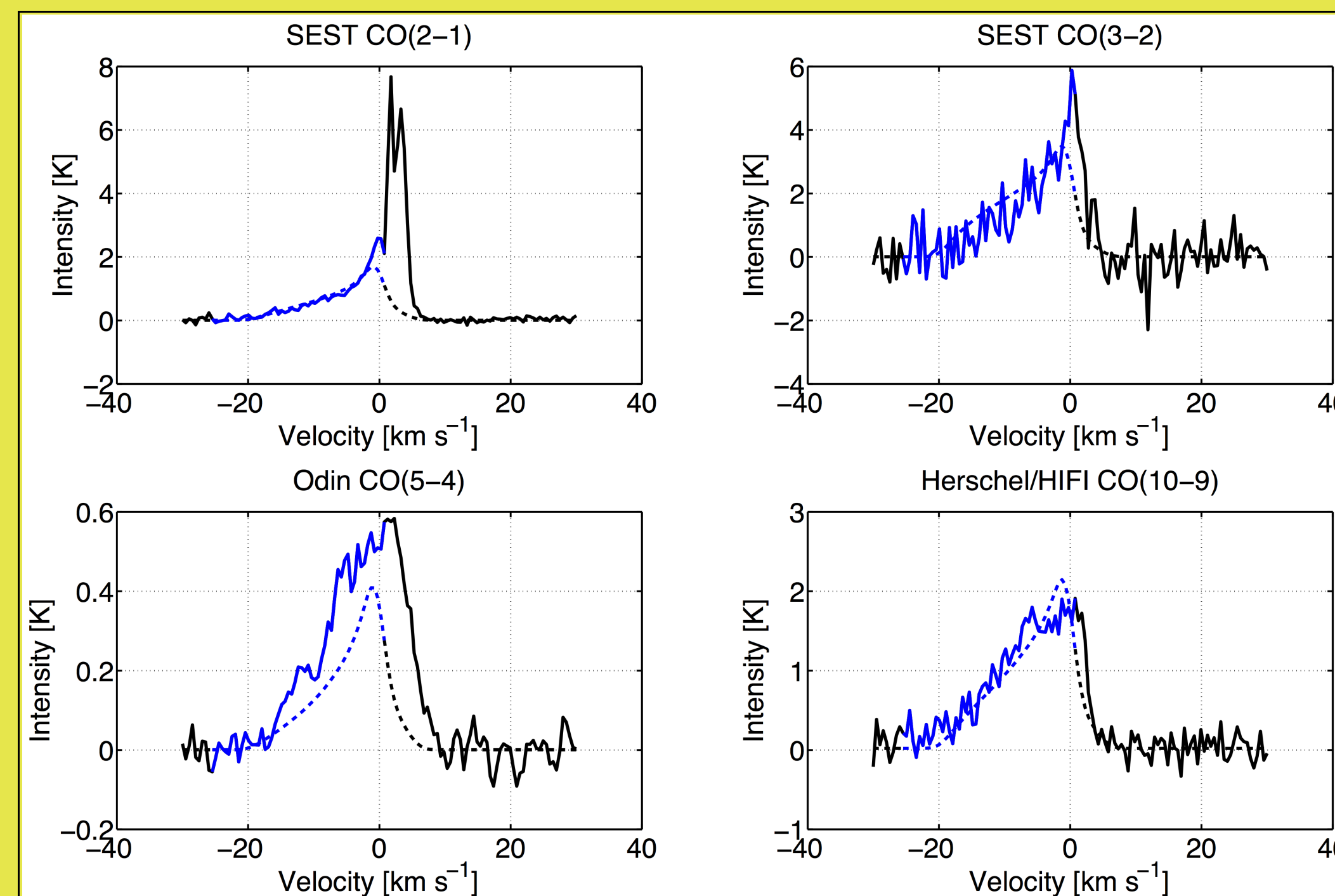
. Radiative transfer modeling (ALI)

. Bow shock geometry

. CO line profile modeling of HH54 B

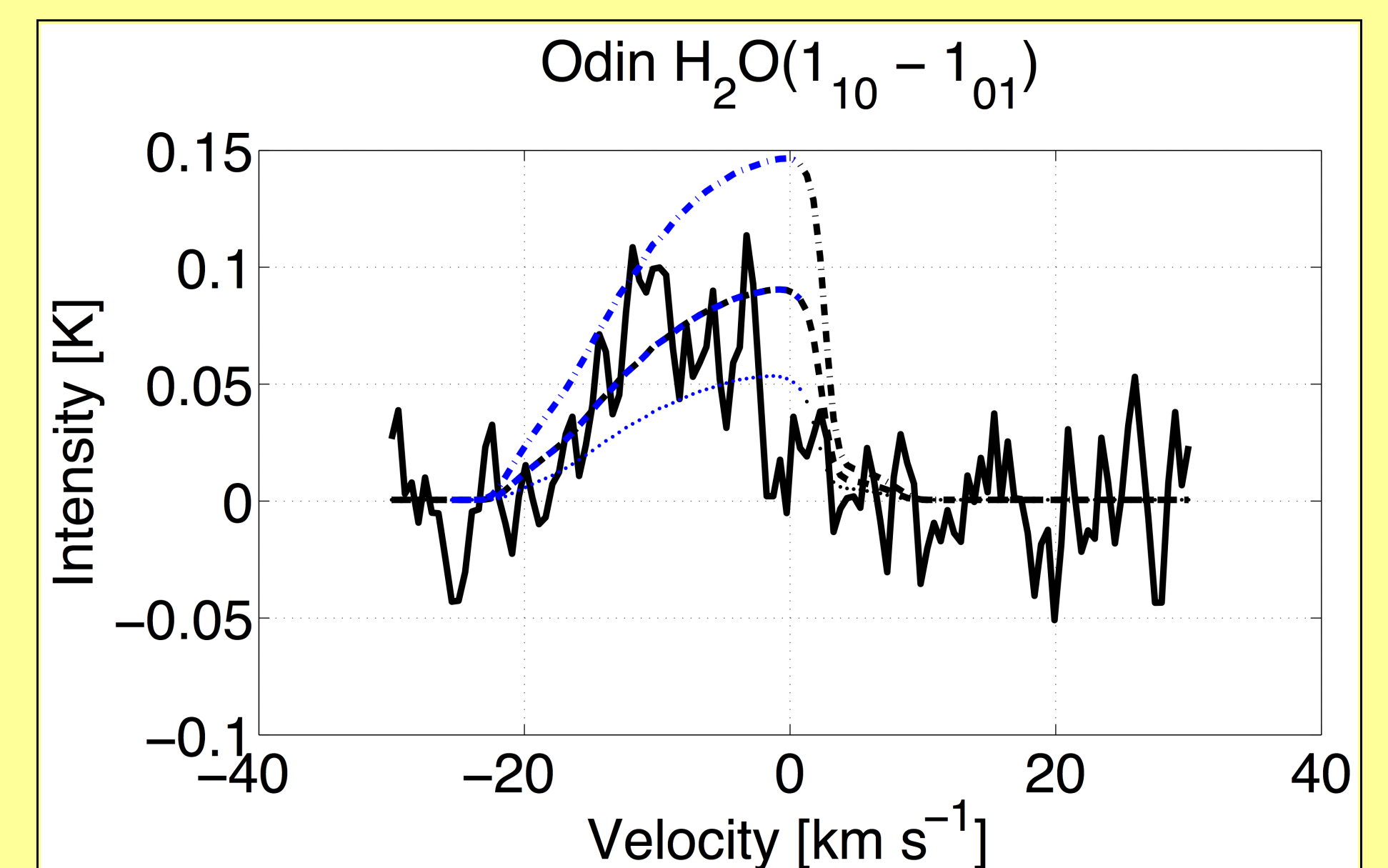
. Line profile predictions for HIFI

CO in HH54 B



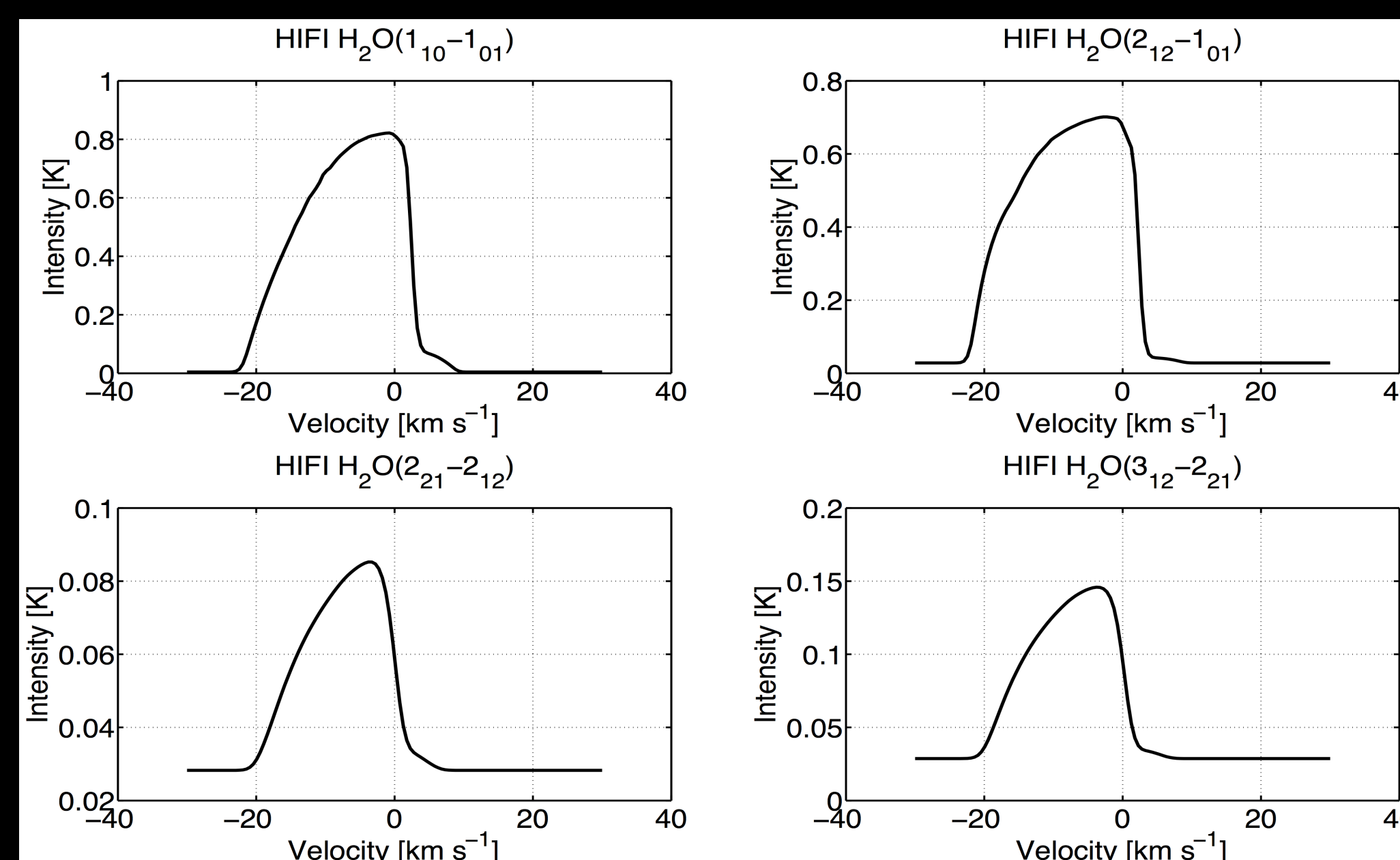
CO(2-1), CO(3-2), CO(5-4) and CO(10-9) as observed by SEST, Odin and Herschel. The modeled spectra are indicated with dashed lines. The velocity interval indicated in blue is where the least square minimization was applied.

o-H₂O in HH54 B



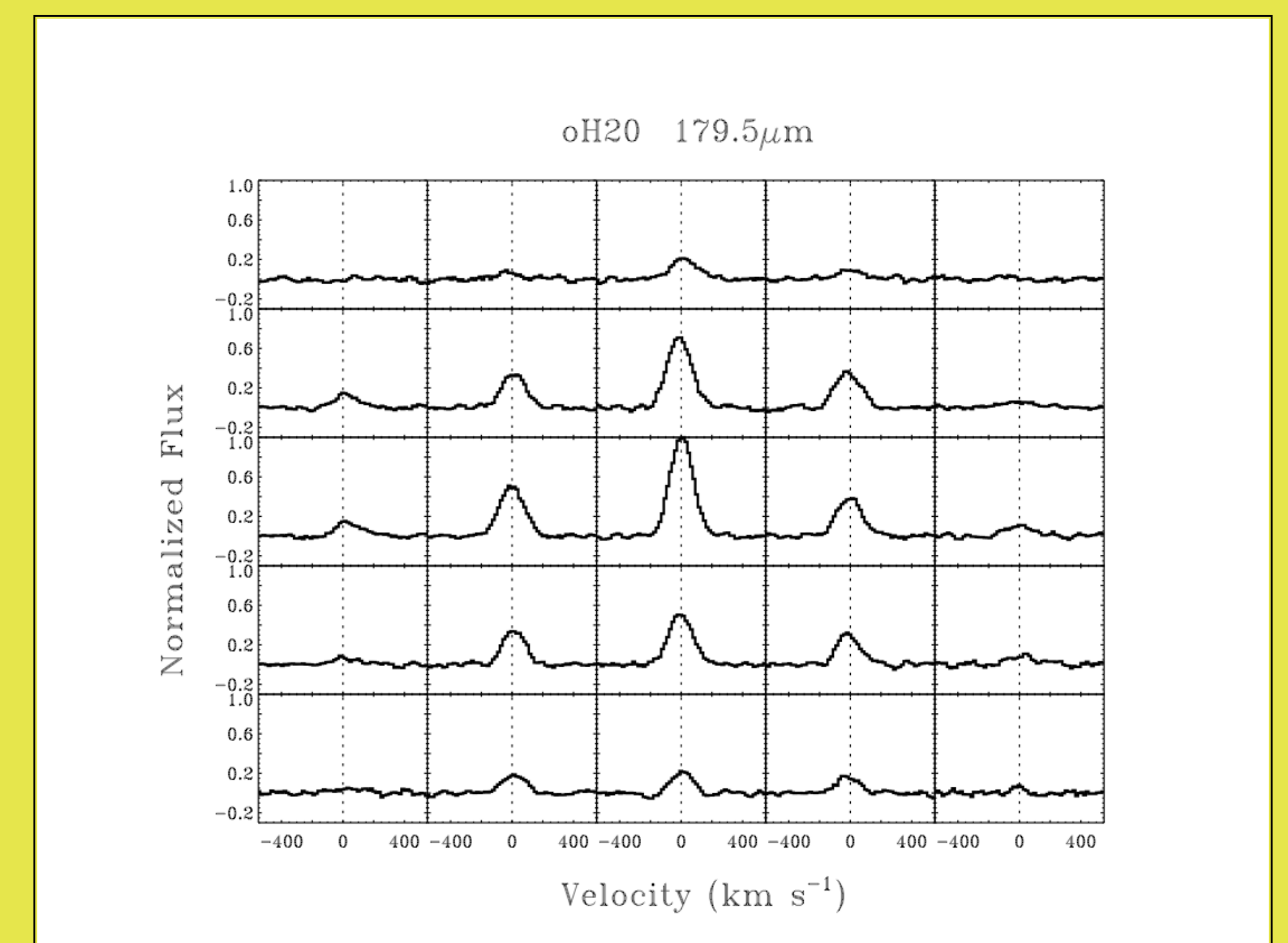
H₂O(1₁₀-1₀₁) model spectra for the water abundances 5·10⁻⁶ (dotted), 1·10⁻⁵ (dashed) and 2·10⁻⁵ (dotted-dashed). The observed spectrum was acquired with Odin in August 2009.

H₂O line profile predictions for HIFI



Predicted line profiles for the four lowest transitions of *ortho*-water that can be observed with HIFI.

PACS H₂O(2₁₂-1₀₁) map



To PACS, the emission seems point-like, indicating a source size no larger than 20".