Core Overshooting and Extra Mixing in Two Kepler SPBs Ehsan Moravveji^(I), C. Aerts^(I), P. I. Pàpics^(I), R. H. D. Townsend⁽²⁾, S. Mathis⁽³⁾ (I) KU Leuven, Belgium, (2) Wisconsin-Madison, US, (3) Saclay, France



(4) Agreement with Numerical Simulations

□ For KIC 10526294: f_{ov} =0.017±0.001, and logD_{míx}=1.75±0.25 cm²/sec. □ For KIC 7760680: f_{ov} =0.024±0.001, and logD_{míx}=0.75±0.25 cm²/sec. It rotates at 26% Roche break-up frequency.

(5) Plans for the Future

- Modelling the new Kepler SPBs (Poster PA.S7.27)
 Computing a large grid of massive stars, and modelling all SPB + β Cep stars in the literature.
- Does core overshooting and diffusive mixing depend on stellar mass? on age, or on rotation rate?

□ For KIC 7760680 which rotates faster, higher overshoot was needed, perfectly agreeing with 3D simulations of Browning et al. (2004, ApJ).

Do our findings agree with 2D/3D simulations?
 Can we calibrate 1D evolutionary tracks?

