1154-35-311 **T Bourni*** (tbourni@utk.edu), 227 Ayres Hall, 1403 Circle Drive, Knoxville, TN 37996, and **M Langford** (mlangfo5@utk.edu) and **G Tinaglia** (giuseppe.tinaglia@kcl.ac.uk). *On the existence of translating solutions of mean curvature flow in slab regions.*

We prove, in all dimensions $n \geq 2$, that there exists a convex translator lying in a slab of width $\pi \sec\theta$ in $\mathbb{R}^{n+1}$ (and in no smaller slab) if and only if $\theta \in [0, \frac{\pi}{2}]$. In constructing such solutions we develop a compactness theory for the graphs of solutions of the Dirichlet problem of the translator equation which is similar to that of almost area minimizing currents. The usual dimension restriction is circumvented here due to the rotational symmetry of the solutions. We also obtain convexity and regularity results for translators which admit appropriate symmetries and study the asymptotics and reflection symmetry of translators lying in slab regions. This work is joint with Mat Langford and Giuseppe Tinaglia. (Received August 30, 2019)