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Travelling graphs for the forced mean curvature motion in an arbitrary space dimension

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We construct travelling wave graphs of the form $z=-ct+\phi(x)$, $\phi: x \in \mathbb{R}^{N-1} \mapsto \phi(x)\in \mathbb{R}$, $N \geq 2$, solutions to the N-dimensional forced mean curvature motion $V_n=-c_0+\kappa$ ($c\geq c_0$) with prescribed asymptotics. For any 1-homogeneous function ϕ_{∞}, viscosity solution to the eikonal equation $|D\phi_{\infty}|=\sqrt{(c/c_0)^2-1}$, we exhibit a smooth concave solution to the forced mean curvature motion whose asymptotics is driven by ϕ_{∞}. We also describe ϕ_{∞} in terms of a probability measure on $\mathbb{S}^{N-2}$.

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