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Emmy Murphy* (e_murphy@mit.edu), Massachusetts Institute of Technology, Building 2, Room 236, 77 Massachusetts Avenue, Cambridge, MA 02139. *Lagrangian caps in \mathbb{C}^2* .

Thinking of $S^3 \subseteq \mathbb{C}^2$, a smooth knot K is called Legendrian if the vector field $i\frac{dK}{dt}$ is tangent to S^3 everywhere. We study how exact Lagrangians in \mathbb{C}^2 interact with Legendrian knots in S^3 . Because there is no symplectomorphism of $\mathbb{C}^2 \setminus \{0\}$ exchanging the inside and outside, an exact Lagrangian surface in $B^4 \subseteq \mathbb{C}^2$ with boundary K will have very different properties than an exact Lagrangian in $\mathbb{C}^2 \setminus B^4$ with boundary K . We call the former a *Lagrangian filling*, and the latter a *Lagrangian cap*. We discuss several results on the interactions between symplectic topology and knot theory, focusing on a recent theorem which states that any Legendrian knot admits a Lagrangian cap after sufficient stabilization. (Received September 24, 2012)