1172-11-216   **Thomas Grubb*** (`tgrubb@ucsd.edu`), **Kiran Kedlaya** (`kedlaya@ucsd.edu`) and **James Upton** (`jtupton@ucsd.edu`). *A cut-by-curves criterion for overconvergence of F-isocrystals.* Preliminary report.

Let X be a smooth, geometrically irreducible scheme over a finite field of characteristic $p > 0$. With respect to rigid cohomology, p-adic coefficient objects on X come in two types: convergent F-isocrystals and the subcategory of overconvergent F-isocrystals. Overconvergent isocrystals are related to ℓ-adic étale objects ($\ell \neq p$) via companions theory, and as such it is desirable to understand when an isocrystal is overconvergent. We show (under a geometric tameness hypothesis) that a convergent F-isocrystal $\mathcal{E}$ is overconvergent if and only if its restriction to all smooth curves on X is. The technique reduces to an algebraic setting where we use skeleton sheaves and crystalline companions to compare $\mathcal{E}$ to an isocrystal which is patently overconvergent. Joint with Kiran Kedlaya and James Upton. (Received August 29, 2021)