1145-11-385 **Maarten Derickx*** (drx@mit.edu). *A-gonality and points of degree d on curves.* Preliminary report.

The gonality of a curve C over the rational numbers $\mathbb{Q}$ is defined to be the smallest integer d for which there exist a map of degree d to $\mathbb{P}^1$. If a map of degree d exists on C then $C(\overline{\mathbb{Q}})$ contains infinitely many points defined over number fields of degree d. It is a theorem of Frey that a converse also holds, namely if $C(\overline{\mathbb{Q}})$ contains infinitely many points of degree d, then there exists a map of degree at most $2d$ to $\mathbb{P}^1$. This means that the gonality determines the smallest degree for which there exists infinitely many points up to a factor of two. The main subject of this talk is the notion of A-gonality. This is a generalisation of the clasical gonality and additionally shares much of the same nice properties as gonality. In certain situations it gives more information about the existence of points of degree d then the classical gonality. (Received September 04, 2018)