

# Generalized Fermat equations, hyperelliptic curves and the cluster picture approach

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During this talk, we will first introduce the current state of the art of the study of the generalized Fermat equations  $Ax^q + By^r = Cz^p$ . Then, we will explain the role of some parametric family of hyperelliptic curves when approaching those equations. Finally, we will see how to compute the cluster picture of these hyperelliptic curves, in order to determine its conductor. The talk is based on the preprint [arXiv:2503.21568](https://arxiv.org/abs/2503.21568)

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