

Inferring parameters of AGN jets using Bayesian analysis of VLBI data with inhomogeneous jet model

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Inhomogeneous jet model successfully explains frequency dependent core shift effect observed in AGN jets with VLBI. We propose to fit it to the observed interferometric visibilities directly using computational methods of the Bayesian statistics. We discuss useful reparametrizations and compare different fitting techniques. Both approximate analytical and exact numerical treatment of the inhomogeneous model are considered. We test the proposed approach using artificially generated data in the context of a parameter estimation and model selection and finally apply method to the real VLBI data.