TREES IN DEGENERATING FAMILIES OF RATIONAL MAPS AND ISOMETRIC G-ACTIONS

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Abstract: Trees appear naturally in studying a degenerating family of ratio- nal maps or a sequence of degenerating representations of a finitely generated group into the isometry group of a negatively curved space. In the later case, the tree can be constructed in a more algebraic way using valuations on a function field of the character variety by Morgan and Shalen,...; there is also a more geometric construction using Gromov-Hausdorff convergence of G-spaces, or measured laminations on a hyperbolic surfaces by Thurston, Bestivina, Paulin,...

For degenerating families of rational maps, one algebraic way is to study the in- duced rational map on the Berkovich projective line. We will introduce a more geometric construction using Douady-Eerle extension (barycentric extension) and compare all these different constructions.