# DEPTH FUNCTIONS FOR TREE-INDEXED PROCESSES

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**ABSTRACT**: Depth functions have long been used to describe the quantiles of multivariate distributions. Also, local depth functions have been used for classification and clustering. These objects have been extended to functional and metric space valued data. In this presentation we describe depth functions for the intensity measure of a point process. When the point process consists of i.i.d. components we obtain the depth of those components. Specifically, we study point processes indexing the edges of Galton-Watson trees and investigate their statistical properties. We use these results in classification of tree-indexed data and develop an analog of the DD-classifier.