Graphical Modeling of High Dimension Processes with an Environmental Application

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Abstract : Graphical modeling plays an important role in providing efficient probability calculations in high dimensional problems (computational efficiency). In this paper, we address one of such problems where we discuss fragmenting puff models and some distributional assumptions concerning models for the instantaneous, emission readings and for the fragmenting process. A graphical representation in terms of a junction tree of the conditional probability breakdown of puffs and puff fragments is proposed.