

Stable bigamies on the line

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Let red and blue points be distributed on \mathbb{R} according to two independent Poisson processes \mathcal{R} and \mathcal{B} and let each red (blue) point be equipped with two half-edges. We consider translation-invariant bipartite random graphs with vertex classes defined by the point sets of \mathcal{R} and \mathcal{B} , respectively, generated by a scheme based on the Gale-Shapley stable marriage for perfectly matching the half-edges. We have shown that a.s. the resulting graph does not contain an infinite component. The two-color model is hence qualitatively different from the one-color model, where Deijfen, Holroyd and Peres have given strong evidence that there is an infinite component. We will explain why the one and the two-color stable bigamies behave so differently on the line. This is a joint work with M. Deijfen.