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*A short proof of the discontinuity of phase transition in the planar random-cluster model with  $q > 4$*

We give a short proof of the discontinuity of phase transition for the random-cluster model on the square lattice with parameter  $q > 4$ . This result was recently shown by Duminil-Copin et al via the so-called Bethe ansatz for the six-vertex model. Our proof also exploits the connection to the six-vertex model, but does not rely on the Bethe ansatz. Our argument is soft and only uses very basic properties of the random-cluster model.

Joint work with Gourab Ray.