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## Oriented Site Percolation, Phase Transitions and Probability Bounds

**Authors:** [Charles E. M. Pearce](#), [F.K. Fletcher](#),

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**Abstract:** We show that one half is a lower bound for the critical probability of an oriented site percolation process of Grimmett and Hiemer. This value improves the known lower bound of one third. We employ an Ansatz which we use also for a related oriented site percolation problem considered by Bishir. Monte Carlo simulation indicates a critical value of close to 0.535, so the bound appears to be fairly tight.



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