Directed polymer in random media with a defect JIN MIN KIM,
JAE HWAN LEE, Soongsil University — We investigate a directed polymer in random
media with an attractive defect at the center of the one dimensional substrate.
Without the defect, end to end distance Δx of the polymer follows $\Delta x \sim t^{1/z}$ with
$z = 3/2$ which is related to the value of the dynamic exponent in Kardar- Parisi-
Zhang equation. When the defect strength ϵ is weak, its contribution to Δx is
negligible. If $\epsilon > \epsilon_c$ then Δx becomes constant. This kind of transition is related to
a queueing phenomena in the asymmetric simple exclusion process. Various critical
exponents near the transiton point are also discussed.

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