

Abstract Submitted
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Discrete positioning of domain walls due to localized pinning sites in current driven motion along nanowires XIN JIANG, LUC THOMAS, RAI MORIYA, STUART PARKIN, IBM ALMADEN RESEARCH CENTER, SAN JOSE, CA 95120, USA TEAM — Current driven domain wall motion is studied in spin-valve nanowires. The position of the domain wall after nanosecond long driving current pulses is determined with an accuracy of better than 50 nm by measuring the resistance of the nanowire. Although the domain wall displacement scales linearly with the current pulse length, its final position is discretized. This is attributed to relaxation of the domain wall into local pinning potential minima along the nanowire after the current pulse is turned off.

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