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Inverse Tunneling Magnetoresistance in nanoscale Magnetic Tunnel Junctions TAE-SUK KIM, Seoul National University — We report on our theoretical study of the inverse TMR effect in the spin polarized transport through a narrow channel between two ferromagnetic metals. In the weak tunneling limit, we find the ordinary positive TMR. The TMR changes its sign as the transmission probability becomes large close to a unity. Our results might be relevant to the magnetic tunnel junction with a pinhole or the break junction with a quantum point contact.

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