

Abstract Submitted  
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**Effective Drag Between Strongly Inhomogeneous Layers: Exact Results** VADYM APALKOV, Georgia State University, MIKHAIL RAIKH, University of Utah — We generalize Dykhne's calculation of the effective resistance of the two-component medium to the case of frictional drag between the two two-component layers. The resulting exact expression for the effective drag is analyzed for the cases when the resistances and transresistances of the constituting components are strongly different - the situation generic for the vicinity of the percolative metal-insulator transition (MIT). On the basis of this analysis we conclude that the evolution of effective drag across the MIT is completely determined by the type of correlation between the components, constituting the 2D layers. The effective drag can change either monotonically across MIT, or experience either sharp maximum or a sharp minimum.

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