

Abstract Submitted  
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**Distinctive Fluctuations of Facet Edges**<sup>1</sup> M. DEGAWA<sup>2</sup>, T. J. STASEVICH<sup>3</sup>, W. G. CULLEN, ALBERTO PIMPINELLI<sup>4</sup>, T. L. EINSTEIN, E. D. WILLIAMS, U. of Maryland, College Park — Spurred by theoretical predictions of distinctive static scaling of the step bounding a facet,<sup>5</sup> we extend the results to dynamic scaling, also rederiving the static results heuristically<sup>6</sup> and we measure this behavior using STM line scans.<sup>7</sup> The correlation functions go as  $t^{0.15\pm 0.03}$  decidedly different from the  $t^{0.26\pm 0.02}$  behavior for fluctuations of isolated steps. From the exponents, we categorize the universality, confirming the prediction that the non-linear term of the KPZ equation, long known to play a central role in non-equilibrium phenomena, can also arise from the curvature or potential-asymmetry contribution to the step free energy. We study a simple model with Monte Carlo simulations to illustrate the novel scaling of fluctuations in an asymmetric potential.

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