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**Hrant Hakobyan\*** ([hakobyan@math.ksu.edu](mailto:hakobyan@math.ksu.edu)), 138 Cardwell Hall, Department of Mathematics, Manhattan, KS 66502. *Modulus estimates in slit carpets and Menger curves*. Preliminary report.

Upper bounds are obtained for moduli of curve families in “slit carpets” first studied by Merenkov. Some applications of these bounds are:

- (1) There are QS co-Hopfian spaces homeomorphic to the Menger curve (answers a question of Merenkov);
- (2) A sufficient condition for the failure of the Poincare Inequality in non self-similar slit carpets.

For (1) we construct explicit admissible metrics, which can be generalized to any dimension and work without the assumption of self-similarity. Condition (2) is similar to the one obtained by MacKay, Tyson and Wildrick in the case of non self-similar square carpets and its proof uses conformal mappings (hence does not generalize to  $\mathbb{R}^n, n \geq 3$ ). We think this condition is sharp. (Received January 18, 2011)