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Seok Hyun Byun* (byunse@indiana.edu), Rawles Hall, 831 East 3rd St., Bloomington, IN 47405. *Lozenge tilings of hexagons with a vertical intrusion.*

In this talk, we first review MacMahon's classical theorem on the number of lozenge tilings of hexagons and some related problems derived from the theorem. Then, we present a new result of the same kind that generalizes a conjecture posed by Fulmek and Krattenthaler. This result also has an interesting interpretation in the language of plane partitions. If time permits, we discuss the limiting behavior of the formulas in fine mesh limit. (Received June 01, 2021)