Generalization of Selberg's 3/16 Theorem and Affine Sieve.

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Abstract: A celebrated theorem of Selberg states that for congruence subgroups of the modular group there are no exceptional eigenvalues below 3/16. I will talk about the joint work with Bourgain and Sarnak in which we establish a generalization of Selberg's theorem for thin subgroups of the modular group. Applications to affine linear sieve will also be presented.