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Jacques Verstraete* (jacques@ucsd.edu), 9500 Gilman Drive, La Jolla, CA 92112, and **Dhruv Mubayi**. *Pseudorandomness in Ramsey Theory*.

We relate the spectrum of the adjacency matrix of an F -free graph to the Ramsey numbers $r(F, t)$, and thereby improve the known constructions for odd-cycle complete Ramsey numbers. In particular we show this approach is able to surpass bounds given by the random F -free process, and the existence of certain optimal pseudorandom graphs would give the exponent of the classical Ramsey numbers $r(s, t)$ for fixed s . This approach shifts the focus in Ramsey theory from random graphs to pseudorandom graphs. (Received September 11, 2019)