1154-90-717 **Stefan Sremac** and **Hugo J Woerdeman*** (hjw27@drexel.edu), 3141 Chestnut Street, Philadelphia, PA 19066, and **Henry Wolkowicz**. *Error Bounds and Singularity Degree in Semidefinite Programming.* Preliminary report.

For certain pathological instances of semidefinite programming, state-of-the-art algorithms, while theoretically guaranteed to converge to a solution, do so very slowly or can fail to converge entirely. This issue is exacerbated in that it is generally undetectable. In this paper we propose a method to detect this type of slow convergence by lower bounding forward error, i.e., distance to the solution set. This bound is obtained by analyzing a class of parametric curves that are proven to converge to a solution of maximum rank and then upper bounding that rank. (Received September 09, 2019)