1114-46-197 **Jon P Bannon***, Siena College Department of Mathematics, Loudonville, NY 12211, and **Eli Bashwinger** and **Mohammad Javaheri**. *The correlation numerical range and trace-positive complex polynomials.*

Let $A \in M_n(\mathbb{C})$. We prove that if $W_c(A)$, the correlation numerical range introduced in Hadwin and Han's paper *The Correlation Numerical Range and Connes' Embedding Conjecture*, is a subset of $[0, \infty)$, then $A = P + D$ where P is positive semidefinite and D is a diagonal matrix such that $Tr(D) = 0$. This answers two of three of the problems posed in the above paper. Additionally, we explore a few properties of $W_c(A)$ and $W_{uc}(A)$, another numerical range introduced by Hadwin and Han that is closely related to Connes's Embedding Conjecture. (Received August 26, 2015)