1125-15-2490 **Xin Li***, Department of Mathematics, University of Central Florida, Orlando, FL 32816, and **Aritra Dutta**. *On the asymptotic behavior of the solutions to the general weighted low rank approximation as one block of the weights approach to infinity.* Preliminary report.

We will study the asymptotic behavior of the solutions to the following weighted low rank approximations of matrices:

$$min_{X_1,X_2:rank(X_1,X_2)\leq r}\{\|(A_1 - X_1)\odot W_1\|_F^2 + \|(A_2 - X_2)\odot W_2\|_F^2\}$$

as $W_1 \to \infty$ and $W_2 \to 1$, where $\odot$ denotes the Hadamard (element-wise) multiplication. We show that, under proper assumptions, the limit exists and in the special case when $W_2 = 1$, the rate of convergence is also established in terms of $\lambda = \max_{i,j}\{(W_1)_{i,j}\}$. (Received September 20, 2016)