

PI SALARIES: We include 3 months salary per year for PI Becker. Benefits are calculated at the rate of 27.2%. We budget for a 4% annual increase in these salaries.

OTHER SALARIES: One UW research associate at the post-doctoral level will be funded at 100% FTE. Benefits are calculated at the rate of 27.2%. We budget for a 4% annual increase in these salaries.

EQUIPMENT: One computer for the UW research associate (PD1) will be purchased with this grant. We budget for \$4,000 for this machine, which is an approximate quote for a Pogo Linux Velocity D55 with a dual quad-core CPU system (computational complexity of PCA scales as approximately  $n^3$ ) with 24 GB of RAM (the memory requirements of PCA scale as  $n^2$ ) and 8 TB of disk space (primarily to store and back-up the input data, as well as the derived surfaces).

TRAVEL: Due to the distributed nature of this collaboration, we budget for 3 domestic trips per year for collaboration and conferences, at the rate of \$1,518 per trip (to cover travel, per diem, and conference registration). We budget for 1 international trip per year at the rate of \$3,014 per trip (to cover travel, per diem, and conference registration).

PUBLICATION CHARGES: Publication costs are budgeted at the electronic publishing charge of \$115/page, for 30 pages/year.

COMPUTING FEES: Computer support fees are budgeted at the nominal rate of \$67 per person per month for 15 months support (12 months research associate plus 3 months PI) by the Physics and Astronomy Computing Services group (PACS) at UW. We budget for a 3% annual increase in these costs.

OTHER: Indirect costs are based on the MTDC rate of 54.5% per the negotiated agreement with DHHS dated 9/22/2011.