



Proposal for Salish Kootenai College Participation in the LSC

Tim Olson
Salish Kootenai College

Thursday Plenary Session

LIGO-G020043-00-Z



Salish Kootenai College is located on the
Flathead Indian Reservation
in northwest Montana

www.skc.edu

- 4-year college chartered by the Confederated Salish and Kootenai Tribes
- 2000 students (1200 FTE), 80% Native American
- A.S. in Computer Science (B.S. by 2003), B.S. in Environmental Science, A.S. in General Studies/Science, A.S. in General Studies/Engineering



SKC Astrophysics Group

- Tim Olson and two or three students (rising sophomores and juniors in engineering or computer science) funded by NASA and NSF
- Recent work on neutron star astrophysics*
- Supporting Java and C++ programming performed with the aid of the students

* "Maximally Incompressible Neutron Star Matter," Phys. Rev. C **63**, 015802 (2001)

"High Density Neutron Star Equation of State from 4U 1636-53 Observations,"
astro-phys/0201099



iVDGL Tier 3 Center

- 5-yr subcontract from the University of Florida to build an International Virtual Data Grid Laboratory Tier 3 center at SKC starting Jan. 2002
- Construction of a ≈ 32 node Linux cluster at SKC within 1 year
- The SKC cluster will be available as a computational resource for the SKC Astrophysics Group



Proposed SKC Contributions to the LSC

- Code development for detector characterization improvements
- Code development for using the iVDGL for LIGO data analysis
- Development of data analysis algorithms for extraction of neutron star equation of state information from merger waveforms



Level of Effort

Olson -

- Full time in summer, 1/3 to 1/2 time during the academic year, occasionally working at LHO
- Potential for growth of the group to one additional faculty member in the next two years (likely in CS)

Students -

- 2-3 students full time in summer, 10-15 hrs/wk during the academic year, occasionally working at LHO



Funding

- Work can begin immediately on currently available funds from existing NASA and NSF grants
- The SKC Astrophysics Group is fully funded through June 2003, currently 25% funded through December 2006