

University of Arizona Cost Proposal

Part 1 –

BUDGET DETAILS

This Budget Element explains the total cost the University of Arizona (UA) is expected to incur during the period of performance of this project (January 21, 2017 – December 31, 2017). The estimates include all labor costs, research materials & services, subcontracts, travel, and indirect (F&A) charges.

DIRECT LABOR

Summary

The labor hours applied to the research in the period specified is 2,544 labor hours. This averages out to an average of 0.98 FTE Year 1 and 0.86 FTE Year 2 for the period of performance (based on 2088 hr work year).

Table B1: Proposed Work Effort

<i>Table of Proposed Work Effort</i>	
Name	Effort
PI: Christopher Walker	10%
Co_PI, Craig Kulesa	15%
PM: Brian Duffy	15%
Instrument Scientist: Abram Young	8%
Programmer: Bill Peters	15%
TBN: Graduate Research Assistant	59%
TBN: Undergraduate Student	50%

Personnel

Christopher Walker (PI) is a Professor in the Department of Astronomy at the University of Arizona. Walker will contribute 160 hours devoted to this project at unburdened direct labor rate of \$63.07 per hour. Prof. Walker will lead the proposed effort, coordinate efforts between the subcontract institutions, and supervise the work on the project.

Craig Kulesa (Co-PI) is an Associate Astronomer at the Steward Observatory. Kulesa will contribute 320 hours to this project support at unburdened direct labor rate of \$27.84 per hour. He will assist the PI in management duties, and will provide flight operations support, flight software development, and delivery, archival and publication of STO-2 data products.

Brian Duffy (PM) is currently a Project Manager in Steward Observatory at the University of Arizona. Duffy will contribute 320 hours to this project, providing project management support at unburdened direct labor rate of \$40.71 per hour. Management tasks are essential for the completion of the project objectives. These management tasks include but not restricted to: coordination with Steward Observatory management; local coordination of tasks and resources; documentation and planning generation; financial tracking; Antarctic operations and field recovery.

Abram Young (Instrument Scientist) is currently a Specialist, Technical/Research at the University of Arizona. Young will contribute 160 hours to this project, providing technical expertise in the areas of mission operations and flight software development instead at unburdened direct labor rate of \$34.87 per hour.

William “Bill” Peters A Staff Scientist at the Steward Observatory. Peters will contribute 320 hours to this project support at unburdened direct labor rate of \$35.69 per hour. He will provide flight operations support, flight software development, and delivery, archival and publication of STO-2 data products.

TBD (Graduate Research Assistant): This student will contribute 4.5 mo/year (50% time during the academic year) to the project at unburdened direct labor rate of \$22.61 per hour. And 414 hours of effort over the 3 month non academic summer at unburdened direct labor rate of \$29.20 per hour.

TBD (Undergraduate Student Assistant): This student will contribute 10 hours per week (200 hours to this project at unburdened direct labor rate of \$10.00 per hour Year 1.

UA Academic and Summer Terms

The Faculty and Student employee year is broken into the academic and the summer terms. The academic term is 9 months, or 40 weeks in duration. The summer term is 3 months or 12 weeks in duration.

UA Faculty and Student Academic and Summer Hours and Rates

Faculty members are allowed a total of 464 hours of compensation during the summer term. And 1600 hours during the Academic term. The faculty summer rate is calculated using 155 hours per month. The faculty hourly rate is calculated using the following formula:
 $Rate = (Academic\ Salary) * .00072.$

Graduate students are allowed to work a total of 800 hours (89 hrs/month) during the academic term and 414 hours during the summer term.

UA Appointed Personnel and Classified Staff Hours

Appointed and Classified staff hourly rates are calculated using a 2088-hour work year or approximately a 174-hour work month.

UA Project Management Support for this Project

The project management effort will include detailed financial tracking as well as project requirements and goal tracking. The effort for these duties is over and above the typical departmental duties provided.

FRINGE BENEFITS

The benefits rates are listed in Table B2. The dollar value is calculated by multiplying the benefits rate to the wages earnings for the specified period.

Table B2: Benefits Schedule

Employee Type	July 2015 and beyond	Year 1
Full Benefits Personnel	34.70%	16,959
Graduate Students	13.90%	\$4,398
Undergrad Student	3.50%	\$158

Benefits \$ = Hours x Hourly Rate x Benefit rate

INDIRECT COSTS

University indirect costs (Facilities & Administrative) apply to the subtotal of: 1) Direct Labor (including benefits); 2) Travel; 3) Supplies and materials (including equipment items costing under \$5000). The University of Arizona defines capital equipment as equipment items costing \$5000 or above.

Indirect cost rates are also only applied to the first \$25,000 of each subcontract

Indirect cost excludes Graduate Student tuition and fees that are direct charged to the grant.

Indirect Cost Rates

The following table describes the University's indirect rates for the period of performance of This proposal.

Table B3: UA Indirect Cost Schedule:

On-Campus Research Rates	
7/1/16-6/30/2017	53.50%

TRAVEL

International Travel to and from Christchurch, New Zealand is paid for by the NSF with separate funds, Transportation and from Christchurch and McMurdo Station Antarctic is aboard military aircraft. Lodging and expenses are not covered by NSF while in New Zealand. Funds are requested to cover the cost of hotels and per diem while returning from Antarctica.

The cost estimate for the basic trip is described in detail in Table B4.

Table B4: Travel

Travel	2017 (Year 1)
<i>Destination</i>	<i>Christchurch, New Zealand</i>
Lodging	5 people x 3 nights x 150
Per Diem	5 people x 3 nights x 100
Per Person totals	\$750

Subcontracts

No Subcontracts are requested for this project

CONSULTANTS

The main activity in the post launch period is to help the Project Scientist oversee as well as work on the data analysis, comparison with other ancillary data sets, modeling, testing the various hypotheses, and finally the production of published refereed papers. Dr. Hollenbach will help the Project Scientist oversee the production of the survey results with adequate error analysis, and its incorporation into the web based data archive, which will include the ancillary data as well.

Dr. Hollenbach will collaborate with other members of the team in the modeling and the testing of various hypotheses set out in the proposal. He will ensure that the complementary ancillary data is properly used to maximize the scientific return on the STO-2 data. The prelaunch models will now be applied to the STO-2 data in order to attain the 4 main science goals.

Dr. David Hollenbach will work 313 hours on this project at an hourly rate of \$112 per hour.

SUPPLIES, MATERIALS, & OPS

We request funding for research supplies (**\$1,000**) and work-flow/data capture and telecommunications expenses required for the conduction of this investigation inclusive of the material costs of creating, replicating, backing up (archiving), distributing and presenting all project related documentation, memoranda, technical reports, analysis, summaries, etc. directly related to this project. We request funding for shipping (**\$5,000**), materials and work-flow/data capture (**\$1,000**), and telecommunication expenses (**\$500**) required for the conduction of this investigation inclusive of the material costs of creating, replicating, backing up (archiving), distributing and presenting all project related documentation, memoranda, technical reports, analysis, summaries, etc. under PI Christopher Walker's responsibility. Additionally we request (**\$4,000**) for publication costs the costs were estimated based on historical usage for projects of this size and scope of work per year. All supplies described in this budget are charged at the indirect rates.

EQUIPMENT

This work relies on the use of existing facilities at the University of Arizona.

OTHER DIRECT COSTS

We request funds for the graduate student tuition and fees that are direct charged to research funds.

FEE/PROFIT

The University of Arizona has no fee/profit costs in this proposal.

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