

Hubble repair prospects

looking good for CU

Leader of CU spectrograph team invited to NASA's Tuesday announcement

By Todd Neff

Camera Staff Writer

James Green cannot say whether his \$80 million Hubble instrument, grounded since early 2004, will ever scan the cosmos aboard the famed space telescope.

But NASA has requested the University of Colorado astrophysicist's presence in a Goddard Space Flight Center conference room 30 minutes prior to NASA Administrator Michael Griffin's announcement Tuesday on Hubble's fate.

If Griffin opts for a Space Shuttle servicing mission — probably in 2008 — the 16-year-old "people's telescope" could survive until the middle of the coming decade. If not, the telescope's batteries and the gyroscopes steadying it will probably start failing by 2009. And Green's Cosmic Origins Spectrograph will continue its long wait.

"I know nothing official," Green said Friday. "But I assume they're going to tell me that Servicing Mission 4 is officially reinstated."

Of the thousands of scientists and millions of Hubble-loving laypeople pulling for the aging telescope, few have more at stake than Green and his CU team.

Green led the design of the Cosmic Origins Spectrograph, which would improve Hubble's ability to sense ultraviolet light by a factor of 20 over the telescope's current ultraviolet instrument,

which died two years ago.

Seven CU people are working on the instrument now, Green said, and he will hire another dozen or so in the next three years if NASA approves a servicing mission.

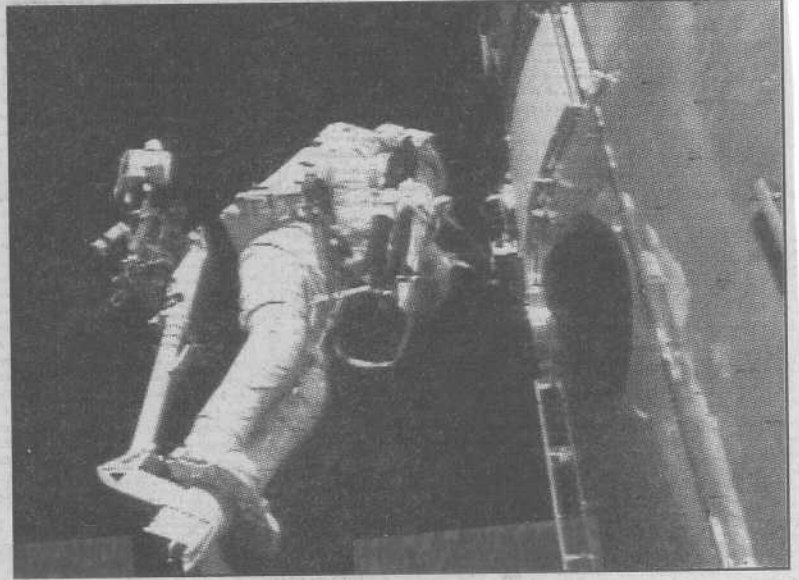
CU's Center for Astrophysics and Space Astronomy's new wing, built in expectation of a planned March 2004 servicing mission, would finally welcome a full spectrograph team.

That mission was scuttled in the wake of the January 2003 Columbia Space Shuttle disaster. NASA remains concerned about astronaut safety. The

Astronaut Richard Linnehan attaches light shields to the Hubble telescope in March 2002.

The fate of Hubble depends on whether NASA squeezes in a shuttle repair mission to give the telescope several more years of life.

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space telescope is too far from the International Space Station for them to seek refuge if disaster strikes.

Ball Aerospace & Technologies Corp. built the Cosmic Origins Spectrograph in Boulder. The company also built the Wide Field Camera 3, which would also be installed. If the servicing mission happens, Ball will have built all five of the space telescope's working instruments.

Under NASA's orders, Green's Cosmic Origins Spectrograph team has been working for more than a year as if its shuttle ride were imminent, he said. Although the spectrograph was tested exhaustively in 2003, the delay means it must undergo stresses such as thermal-vacuum testing again. Green said that's happening now at Goddard, which is in Greenbelt, Md.

"We're certainly operating as if we're going to launch," he said.

Michael Shull, a CU astrophysicist and member of the Cosmic Origins Spectrograph science team, said he would be "very surprised" if NASA announced anything but a Hubble servicing mission.

"All the build-up, all the careful studies are pointing to a servicing mission," he said.

Shull said the spectrograph can help answer some key questions about the universe's development, including how galaxies formed and evolved and where most of the universe's periodic-table matter ended up — 60 percent remains unaccounted for, Shull says. The Wide Field Camera 3, he said, could deepen our understanding of supernovae, dark energy and dark matter, he said.

Contact Camera Staff Writer Todd Neff at (303) 473-1327 or neff@dailycamera.com.