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## Samuel Ting's space odyssey

By Charles P. Pierce

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Ting installed the weaker, permanent magnet from the prototype that had flown on the 1998 shuttle mission. It meant the AMS could keep gathering information, to the tune of seven gigabytes per second, for more than a decade, as long as the space station remains in operation.

"In the final analysis," says NASA's Sistilli, "the AMS is easier to fly and there will be better science. We couldn't have planned it that way."

You can't see the sun or the sky or the steadily wheeling birds from the place where the AMS is being stored, in a clean room attached to the side of the gantry that will mate with the back of Endeavour so that the device can be transferred to the shuttle's cargo bay. You can't even see the people in the room, swathed as they are, top of the head to soles of the feet, in preposterously billowy "bunny suits." The AMS, a huge, roundish thing, shaped not unlike a beer can, is itself draped in fabric, which gives it something in common with the people working on its final preparations.

Bristling with the struts by which it will be handed off by the shuttle's extendable cargo arm to the one on the space station, the AMS has "UNITED STATES" emblazoned on it, as well as a spiffy logo, and you can't see it all unless you walk up two iron staircases to a third level of the facility. It will remain on Earth until April 29. And then Sam Ting, who oversees every little part of every one of his experiments, will watch it disappear into the sky, far beyond his ability to tinker with it anymore.

"I remember the first time I met with the NASA administrator, his name was Dan Goldin, and we met at the end of the morning. The appointment was only supposed to be for about an hour, and it lasted for three hours," Ting recalls. "I was about to leave, and he said to me, 'You know, space is very hostile.' I did not understand that. It took me 10 years to understand that. If something goes wrong, you cannot ask your graduate student to go up there and fix it."

Out of the stifling bunny suit and into the clear afternoon again, Sam Ting goes off to a meeting at another part of the Kennedy Space Center. His grand project, the product of deep imagination driven by prodigious will, stays behind in the clean room, halfway up the gantry and about midway up the hull of Endeavour, which will be going up for the last time this month, a launch that already is a media event because of tragic terrestrial circumstances in Tucson.

The shuttle stands there, vertical and stolid, dinged and scarred, scorched and singed, while all around it, all the way to every horizon, the day continues to sparkle like something unknown is lighting the whole universe up, something undiscovered, something that might be limitless.

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