



difference for me in dissecting it in the photo,” Wei explained.

The funny thing is, people untrained in the scrutiny of space photos tend to mistake mountain ridges for valleys. One such photo, taken from a micro-satellite called Proba orbiting 600 km above Earth’s surface, was annotated as showing a section of the Great Wall. However, it was quickly suspected to be erroneous when it was released by the European Space Agency in May 2004.

“We studied that photo and it was definitely a stretch of valley or riverbed,” Wei said.

This misinterpretation was made because “it is easier to distinguish valleys and ridges with the naked eye, since you see them in three dimensions. That’s the way the human eye is designed. It is more difficult with a two-dimensional picture,” Chiao commented.

Kodak moments

But taking photos of the Great Wall is no simple snap shot. “This takes some real practice,” Chiao emphasized.

His photos were taken when the space station was 360 km from Earth. It orbits Earth once every 90 minutes, yielding mere flashes of opportunity.

“We cover approximately 5 miles (8km) every second at our orbital speed. So, there is not much time at all to shoot a particular spot. It is a matter of seconds, perhaps 15 or so. As you approach the target, you must identify the area and continuously refer to a map to keep up to date on where you are. Also, when photographing Earth at this speed, you must move the camera with Earth, in order to keep the image sharp. Otherwise, all that will show up is a blur,” Chiao revealed in an ongoing process of explaining the intricacies of shooting the Wall from way up high.

And the chances for shots are limited, since the space station orbits over different parts of Earth every 90 minutes. Chiao got to shoot the Wall area “maybe once every few days and only during daylight every three months.”

It’s like living near the North Pole. Beijing “is in darkness during our flyovers for about three months, and so on,” Chiao said.

Chiao uses a modified Nikon F5 camera, which Kodak equipped with digital capability and sold as a Kodak DCS 760. He uses a regular 50mm lens, or 180mm, 400mm or 800mm lenses. The February 20 photos of the Great Wall were taken with the 800mm lens. The shutter was set at 1/500 second, and the aperture was open to maximum, f2.8. The one printed here is 1.6 megabytes (mb) in JPEG format, or 17.4 mb uncompressed, with a width of 3,032 and a height of 2,008 lines. (The photo has been cropped for clarity.)