Exploding meteor captured in new timelapse

November 7 2014, by Nancy Atkinson

The Milky Way likes to amaze us, and this great video shot by Wes Eisenhauer outside of Custer, South Dakota, shows an amazing exploding meteor and what is known as a persistent train from the fireball. The "remains" of the fireball persisted for several minutes (just a few seconds in the timelapse) and upper atmosphere wind shear twisted and swirled the expanding debris.

This was shot on October 16th, 2014, before the official start of the Orionid meteor shower, so this was perhaps a random larger meteor streaking through the sky.

Phil Plait has a good explaination of persistent trains:

Technically, that's called a persistent train, and it's not actually smoke. As a meteoroid (the actual solid chunk of material) blasts through the air, it ionizes the gases, stripping electrons from their parent atoms. As the electrons slowly recombine with the atoms, they emit light—this is how neon signs glow, as well as giant star-forming nebulae in space. The upper-level winds blowing that high (upwards of 100 km/60 miles) create the twisting, fantastic shapes in the train. The actual details of how this works in meteor trains are not well understood, mainly because they are so difficult to spot and study. It's hard to point a telescope at a position in the sky when you don't know where or when a meteor will pass through!

We featured another persistent train video in August 2013, and ended up adding quite a few other images of "explody" meteors captured by astrophotographers.

Source: Universe Today