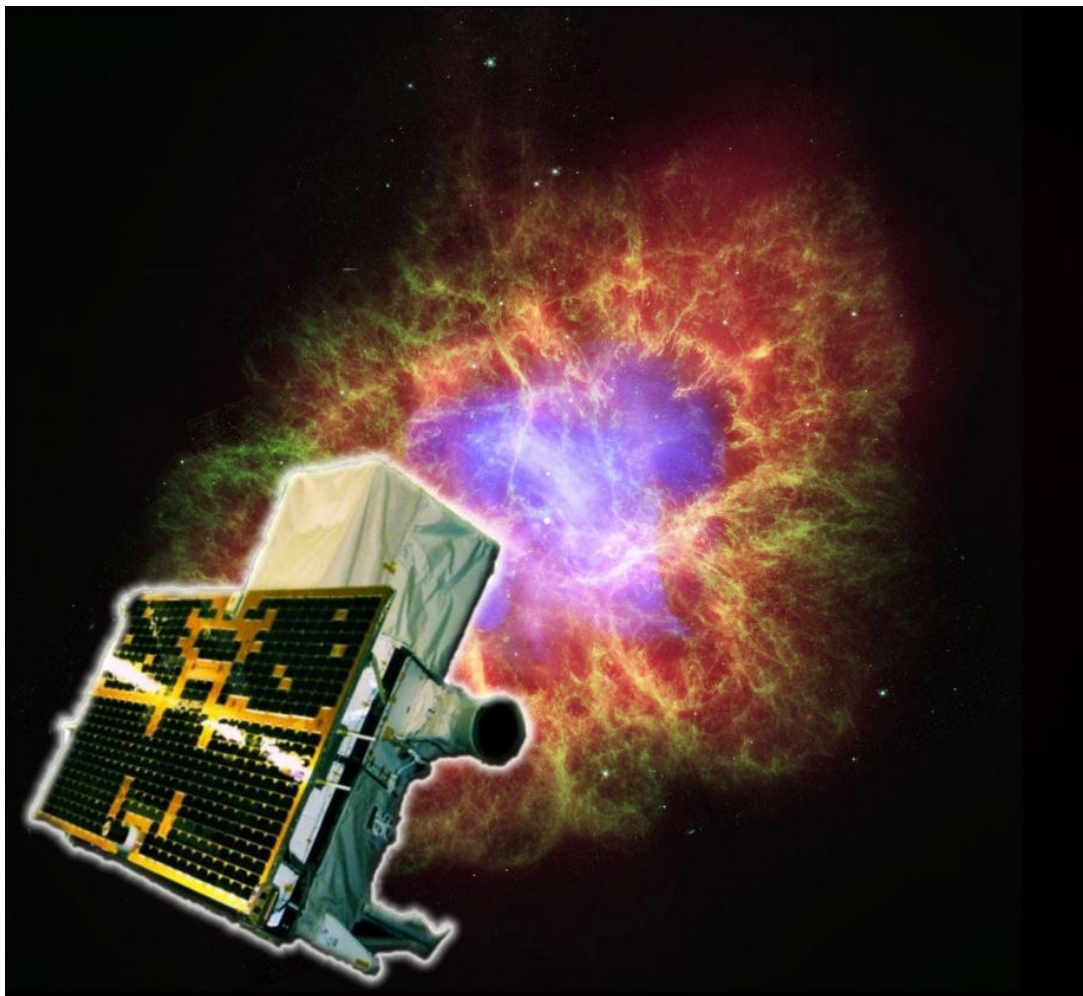
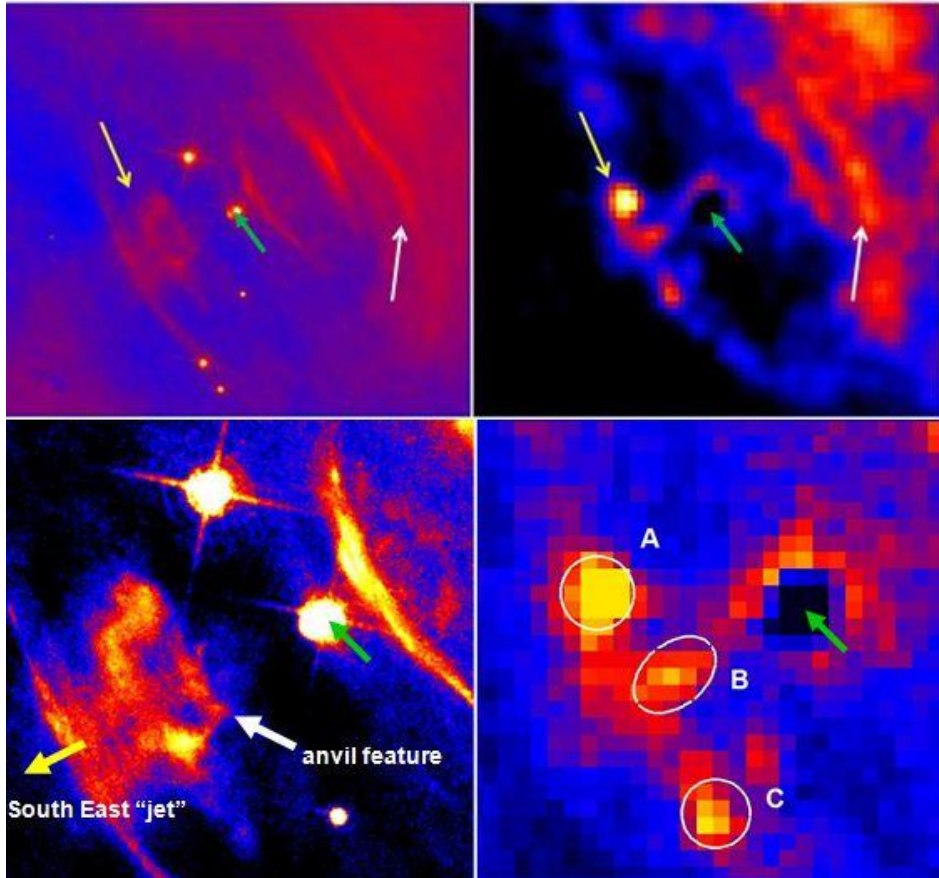


Images attached to the AGILE Press Release on the Crab Nebula
FOR RELEASE: 10:00 a.m. PST, January 12, 2011

AGILE DISCOVERS CRAB NEBULA FLARES

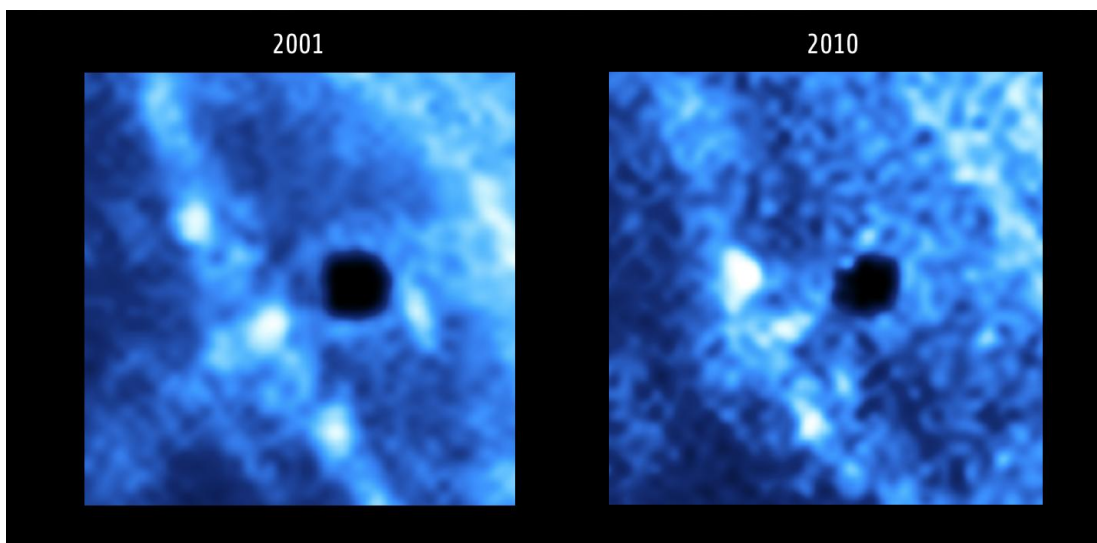


The AGILE satellite with a composite *Hubble-Chandra* image of the Crab Nebula (photo credits: ASI, NASA).



(Photo credit: AGILE Team)

Fig. 1 – HST and *Chandra* imaging of the Crab Nebula following the Sept., 2010 gamma-ray flare. (*Top left panel:*) HST optical image of the inner nebula region (approximately 28"x28", North is up, East on the left) obtained on October 2, 2010. The pulsar position is marked with a green arrow in all panels. White arrows in all panels mark interesting features compared to archival data. (*Top right panel:*) the same region imaged by the *Chandra* Observatory ACIS instrument on September 28, 2010 in the energy range 0.5-8 keV (level-1 data). The pulsar does not show in this map and below because of pileup. (*Bottom left panel:*) zoom of the HST image (approximately 9"x9"), showing the nebular inner region, and the details of the "anvil feature" showing a "ring"-like structure at the base of the South-East "jet" off the pulsar. "Knot 1" at 0".6 South-East from the pulsar is saturated at the pulsar position. (*Bottom right panel:*) zoom of the *Chandra* image, showing the X-ray brightening of the "anvil" region and the correspondence with the optical image.



(Photo credit: Chandra Observatory)

Fig. 2 – A comparison of two different *Chandra* X-ray imaging of the inner Crab Nebula (the Crab pulsar is so bright that it saturates, and shows up as a black region in these maps because of photon pileup). (*Left panel:*) an X-ray image obtained in 2001 (7 hour observation). (*Right panel:*) the same region imaged by *Chandra* on Sept. 28, 2010 (1.4 hour observation). Several of the inner Crab nebula features are known to vary within a timescale of months/years. Future *Chandra* monitoring of the Crab is critical in the attempt to identify the site or sites of the gamma-ray flares.