Short-lived hard X-ray transients discovered with INTEGRAL

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During the first two and a half years of operation in the orbit the INTEGRAL observatory discovered 50 new hard X-ray sources that significantly (by 40-50 percent) enlarges the amount of such sources detected in previous experiments. It is natural that different types of sources are present in this sample but two notable source populations certainly escape: strongly absorbed sources (with a very low flux in the standard X-ray band that made them unobservable in X-ray surveys) and short-lived transients appearing on the sky for only a few hours (that made them again very difficult to detect).

Outbursts of latter sources are too long to be attributed to thermonuclear explosions at the neutron star surface (observed as type I X-ray bursts or superbursts). On the other hand, they are shorter than the typical accretion (viscous) time (exceeds 1.4 days) governing propagation of perturbations in the standard accretion disk. We describe observational properties of these short-lived transients and discuss their possible origin.