X-ray astronomy in Germany – the successful establishment of a new field of science

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As the atmosphere of the earth nearly absorbs all X-rays, the detecting instruments have to be brought into high altitudes. The neccessary devices for that, for example rockets, were available after the Second World War so that first observations of X-rays were realized with German V2-rockets in the USA from 1948 onwards.
Since the 1960s the X-ray astronomy has become a regular field of science in the USA. At the same time many important discoveries in radio astronomy were made, for example the discovery of the quasars in 1960 and the discovery of the pulsars in 1967. After this success the interest in observing radiation of the whole electromagnetic spectrum has increased. Especially the X-ray and gamma astronomy, have become interesting to examine high energy processes.
Also Joachim Trümper, who was originally engaged with the examination of cosmic rays in Kiel, became very interested in this new field of science. Especially through his effort and a positive political situation the German satellite ROSAT became possible. The project was a big success because there was a high resolution X-ray-telescope on board of ROSAT. This special instrument – above all his mirror system was the result of a very intensive cooperation between the scientists and the company Zeiss. Together the partners developed a process to get high polished mirror surfaces, which were outstanding for that time.
The later projects XMM-Newton and Chandra have also profited from these special German skills, which has put the German X-ray astronomers into an important position in the international comparison, with Joachim Trümper as central figur.