Background
Stereotactic treatments started about 20 years ago with stereotactic single dose irradiation of brain tumours and head and neck lesions ("radiosurgery", [1]). Later on, this technique was extended to fractionated treatments using relocatable mask systems for the patient’s head in connection with stereotactic target localization and positioning devices ("precision radiotherapy", [2,3]). The transfer of this technique to the extracranial region lead to whole body stereotaxy, allowing both, single dose and fractionated irradiation of e.g. paraspinal tumours, lung and liver metastases and prostate cancer.

The previously known whole body stereotaxis apparatus has a base plate and two curved marginal or side strips which border thereon and are attached thereto at the marginal or side edges thereof. The two side strips are connected by hoops or arches extending over the base plate. This whole body stereotaxis apparatus is disadvantageous since it is not possible to accurately localize points in the area of the base plate center. Therefore, a patient’s body resting upon the base plate will be inaccurately localized in the area bordering on the base plate. Furthermore, the calibration rods on the apparatus are awkward and only permit calibration of the arch to which they are fixed. In addition, the apparatus’ arrangement lacks a way to conduct target-positioning of the entire apparatus for a subsequent irradiation of the patient.

The Technology
The researchers created a whole body stereotaxis apparatus which avoids the drawbacks noted above. In particular, it permits an accurate localization in the area of the base plate and areas bordering thereon. One can equip the base plate with a vacuum mattress to fix the position and immobilize the patient with respect to the stereotaxis apparatus. The abstract and one of the pictures from the from the issued patents follows:


A whole body stereotaxis apparatus comprising a base plate (2) to accommodate a patient, two side strips (4, 6) which are attached to the base plate (2) at the marginal or side edges thereof and laterally delimit the base plate (2) and to which arches (10, 12) extending over the base plate (2) can be attached, characterized in that a central strip (8) is mounted on the base plate (2) and comprises bores (22) to accommodate accessories.

**Development Stage:**
This technology is currently in use at the DKFZ. For a picture of invention as used at DKFZ, please see the following page.

The whole body fixation device used for radiotherapy that provides more accurate radiation therapy. Currently in use at DKFZ.

**Use**
Fixation of patient during radiotherapy, avoiding inaccuracies during treatment. For extracranial use only.

**Inventors**
Otto Pastyr
Prof. Dr. Wolfgang Schlegel

**Intellectual Property**
The PCT patent application was published as WO 97/06743. The European patent is granted as number 0 850 026. The US Patent is granted as number 6,045,558.

**Commercial Opportunity:**
We seek an industrial partner for this technology for licensing and/or collaboration.