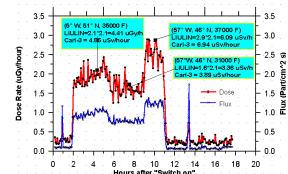
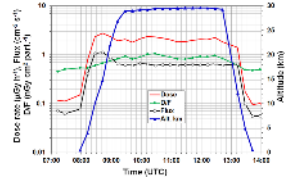
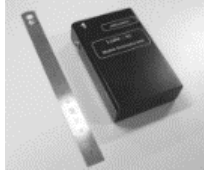
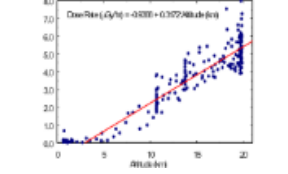
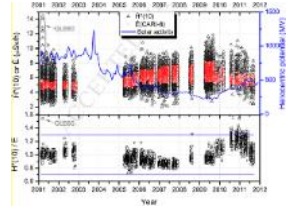
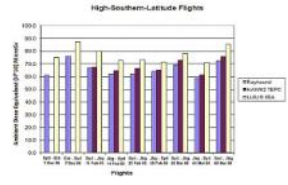
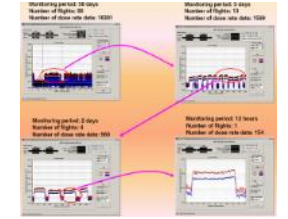
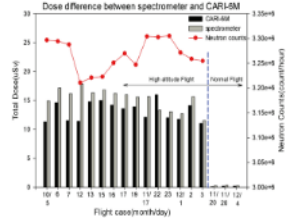
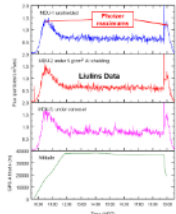
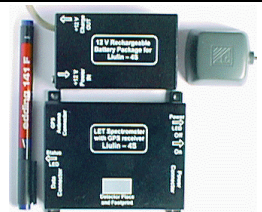
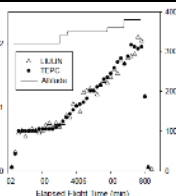
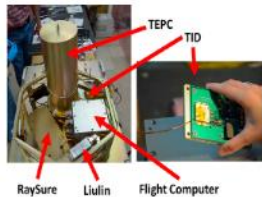
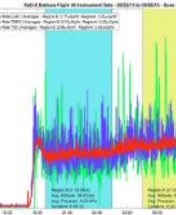
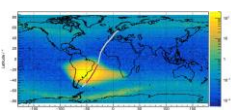
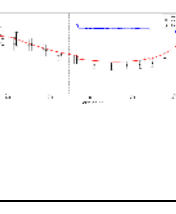
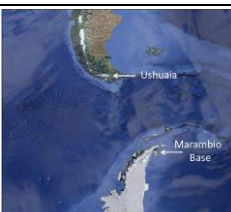
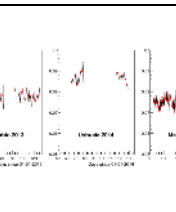
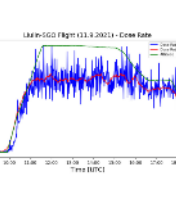
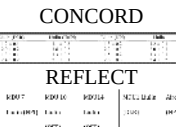
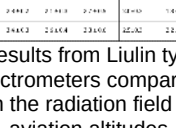
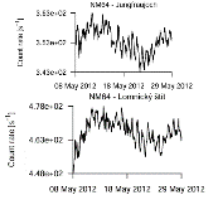
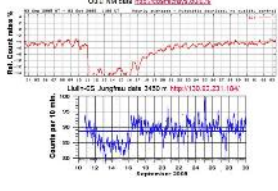
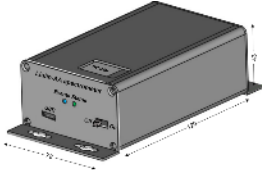
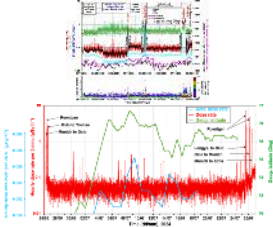
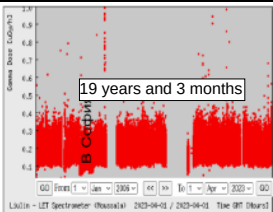


Table 3. Liulin Type Instruments Used On Aircraft, Balloon and Mountain Picks

No	Name of the Liulin device, Scientific management	Experiment (Airline picture)	External view of the Liulin instrument	Scientific result
1	Liulin-3 , SRTI-BAS and (Space Radiation Office, NASA, Greenbelt Space center, USA, (Stasinopoulos et al. 1999)			
2	Liulin-4C Stratosphere balloon, Gap-Tallard aerodrome, France, F. Spurny, NPI, Czech Republic, Gap, France, 14/06/2000, (Spurny, 2000)			
3	Liulin-J, MDU-1 High altitude flight with NASA aircraft ER-2 Oct.-Nov. 2000. (Uchiho et al., 2002, 2003).			
4	Liulin-C, MDU-5/6 CSA aircrafts, Nuclear Physics Institute (NPI), Czech Republic, Aircraft measurements from 01/04/2001 up to now, Publicly available database (Ploc et al., 2013)			
5	Liulin-4SA Qantas Airlines aircrafts Australia, 2005-2010 (Getley et al. 2010) (Getley			
6	Liulin-4Sp Implementation of cosmic radiation monitoring in airline routine at IBERIA Airline, Spain, 2004-2010 (Vergara and Román, 2009)			
8	Liulin-6K Korea Astronomy and Space Science Institute (KASI), Korea, 2010. (Lee et al., 2014) (Hwang et al., 2020,			

9	Liulin-4U 3 Liulin-J type spectrometers, NASA Deep Space Test Bed balloon certification flight on June 11 2005, New Mexico, USA. (Benton, 2005, Adams, 2007)			
10	Liulin-4SN Liulin type spectrometer with GPS receiver. Department of National Defense, Royal Military College, Ontario, Canada. (Kitching, PHD thesis, 2005) (Green et al., 2005)			 In flight comparison of Liulin and TEPC.
11	Liulin-6SA1 NASA RaD-X balloon flight 25-26 Sept 2015, Fort Sumner, NM, USA. (Mertens, C. J., et al., 2016)			
12	Liulin-6G Two Liulin-6G battery operated spectrometers with LCD displays were developed for German Aerospace Center (DLR) Institute of Aerospace Medicine (Meier et al, 2016, 2023)			
13	Liulin-I MDU-01 Radiation dosimetry at high southern latitudes (Zanini et al., 2019)			
14	Liulin-SGO Battery operated spectrometer developed for Sodankylä Geophysical Observatory, University of Oulu, Finland. (Mishev et al. 2022, 2023; Larsen et al. 2023),			
15	Liulin-F Several Liulin-F battery operated spectrometers were developed for the Institut de Radioprotection et de Sureté Nucléaire (IRSN), Paris, France and used in aircraft dosimetry. (Meier et al. 2016; Desmaris, 2016; (Ambrožová et al. 2020)			CONCORD  REFLECT  Results from Liulin type spectrometers comparison in the radiation field at aviation altitudes.

16	Liulin- Liulin-6K1 Internet based instrument, Institute of Experimental Physics, Slovak Academy of Sciences, Slovakia, operated 2009-2020 at Lomnický štít observatory (2634 meters a.s.l.). (Kubančák et al., 2014)			
17	Liulin-6S Internet based instrument, Physikalisches Institut, University of Bern, Switzerland, operated 2006-2015 at Jungfrau pick, Alpen mountain, Switzerland (4158 meters a.s.l.). (Kubančák et al., 2014)			
18	Liulin-AA Battery operated spectrometer used for groundbased and aircraft dose rate and flux measurements between Antarctica, Arctic and Sofia, Bulgaria. (Dachev et al., 2024b)			
19	Liulin-6MB Internet based instrument, operating since 2006 at the Institute for Nuclear Research and Nuclear Energy - Bulgarian Academy of Sciences, base station on Musala pick, Rila mountain, Bulgaria (2925 meters a.s.l.). http://beo-db.inrne.bas.bg/moussala/main.php?action=liulin_dose	 		

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