

IAF/IAA SPACE LIFE SCIENCES SYMPOSIUM (A1)  
Radiation Fields, Effects and Risks in Human Space Missions (5)

Author: Mr. THANGAVEL SANJEEVIRAJA  
Hindustan University, India, stvaero@gmail.com

Dr. Santhanakrishnan Ramraj  
Hindustan University, India, rsanthanakrishnan2@gmail.com

Dr. Banupriya Thangavel  
India, banupriya@dr.com

STUDY THE SPACE RADIATION EXPOSURE FOR RADIOGENIC LEUKEMIA IN AN  
INTERPLANETARY MISSION**Abstract**

Despite years of research, indulgent the effect of radiation environment in space and the risk it poses remains limited in to an astronaut due to inconsistency of research and observed effect. The space agencies are shown a keen interest to expand capabilities for a human spaceflight to the moon and Mars. The human space mission is intending to develop appropriate and operative mitigation strategies for future mission. To achieve this goal, identify the historical limitation of radiation research and should be address the risk posture of human spaceflight endeavors. This works examines the science background of radiogenic leukemia and motivation for reduce the uncertainty in predicting human exposure to cosmic radiation in the space environment. In the modelling studies include several mission parameters as like large solar particle events (SPEs), time interval between SPEs and degree of astronaut's additional shielding during SPEs, mission duration and dose equivalent rate of galactic cosmic rays (GCR) as well as total mission dose equivalent. The framework of developed dynamical model is compared with various scenarios of space radiation exposure for radiogenic leukaemia among astronauts obtained and also compared with commonly used linear model to the corresponding results. It is revealed that, the develop model can be applied to estimate excess relative risk (ERR) engaged in long-term interplanetary space missions.