

Correlation between radon levels and lung cancer mortality rates: Experimental and theoretical problems

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Abstract: Radon is a radioactive gas and is present in most earth materials such as soil, stone, air, water and others. Comprehensive and scientifically rigorous studies found a low lung cancer mortality rate in high radon areas. It is opposite to the linear no-threshold hypothesis (LNT), which is a popular theory in the field of radiation safety. The fact is explained by the theory of energy transfer model that accounts for the competitive processes arising in material during irradiation. Copyright © 2006 Inderscience Enterprises Ltd.

Author Keywords: Cancer mortality rate; Energy transfer model; Hormesis; Linear no-threshold hypothesis; Radon gas

Index Keywords: radon; article; cancer mortality; cancer risk; correlation analysis; hormesis; human; lung cancer; mathematical computing; radiation; radiation response; radiation safety

Year: 2006

Source title: International Journal of Low Radiation

Volume: 2

Issue: 2-Jan

Page : 84-87

Cited by: 2

Link: Scopus Link

Chemicals/CAS: radon, 10043-92-2

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ISSN: 14776545

DOI: 10.1504/IJLR.2006.007898

Language of Original Document: English

Abbreviated Source Title: International Journal of Low Radiation

Document Type: Article

Source: Scopus

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References:

- (1999) Health Effects of Exposure to Radon: BEIR VI, p. 516
- Blumethal, M.S., (1998) Wisconsin Medical Journal, 87, p. 17

- Cohen, B.L., Test of the linear no-threshold theory of radiation carcinogenesis for inhaled radon decay products (1995) *Health Phys*, 68 (2), p. 157
- Kondo, S., (1993) *Health Effect of Low-level Radiation*, pp. 5-40. , Osaka, Japan/Madison, Kinki University Press, Medical Physics Publishing, WI
- Nghiep, T.D., Kojima, T., Energy transfer model in dosimetry (1996) *Comm. in Phys.*, 6 (2), p. 5
- Pollycove, M., Nonlinearity of radiation health effects (1998) *Environmental Health Perspectives*, 106, p. 363
- Quang, N.H., Assessment of radioactive status of building materials in Hanoi (1986) *Proc. of the 1st Nat. Conf. on Nuclear Science and Techniques*, p. 303. , Hanoi, May 14-15