Status of tritium modeling in IFIN-HH

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1 Introduction
2 Occurrence
3 Chemistry and Physics: Specific Examples for Tritium
4 Analytical Characterization Techniques
5 Speciation
6 Potential Human Exposure
7 Separation Techniques
8 Remediation
9 Conclusions
Energy metabolism used as a tool to model the transfer of 14C and 3H in animals
A. Melintescu, D. Galeriu
Radiation and Environmental Biophysics, 2010, DOI: 10.1007/s00411-010-0302-4

Measured and Modelled Tritium Concentrations in Freshwater Barnes Mussels
(Elliptio complanata) Exposed to an Abrupt Increase in Ambient Tritium Levels
T.L. Yankovich, S.B. Kim, F. Baumgärtner, D. Galeriu, A. Melintescu, K. Miyamoto,
M. Saito, F. Siclet and P. Davis
accepted to Journal of Environmental Radioactivity
Retention of tritium in reference persons: a metabolic model. Derivation of parameters and application of the model to the general public and to workers

D. Galeriu, A. Melintescu

• IOP PUBLISHING JOURNAL OF RADIOLOGICAL PROTECTION
doi:10.1088/0952-4746/30/3/003
Tritium profiles in Snowpacks
D. Galeriu, P Davis, W. Workman
Journal of Environmental Radioactivity 101 (2010) 869e874

Rain Scavenging of Tritiated Water Vapour: A Numerical Eulerian Stationary Model
D. Atanassov, D. Galeriu
accepted to Journal of Environmental Radioactivity

Dynamic model for tritium transfer in aquatic food chain
A. Melintescu*, D. Galeriu
B. Submitted to Radiation and Environmental Biophysics
On going

• Exchange velocity approach and the role of photosynthesis for tritium transfer from atmosphere to plants

  – A. Melintescu,* and D. Galeriu

  – TRITIUM 2010, Nara, this October
On going

- Using $^{14}$C experimental data in order to fix some tritium dynamic processes $????$
- $^{14}$C in rice and potato- in progress, wheat to be considered
- fix, model para with exp data for dry matter production and partition to plant parts, depending on crop genotype specific para and environment para

Need time and budget to finalize (1/2 done)