

## The Evaluation of the Real Alpha Value in Brazil and Its Projection until the Year 2050

Adelia Sahyun<sup>a,d\*</sup>, Carlos N. Ghobril<sup>b</sup>, Clarice F. Perez<sup>c</sup>, Gian Maria Sordi<sup>a</sup>

<sup>a</sup>Instituto de Pesquisas Energéticas e Nucleares/ ATOMO Radioproteção e Segurança Nuclear, São Paulo, Brazil

<sup>b</sup>Instituto de Economia Agrícola - São Paulo / ATOMO Radioproteção e Segurança Nuclear, São Paulo, Brazil

<sup>c</sup>Centro Tecnológico da Marinha em São Paulo - CTMSP, São Paulo, Brazil

<sup>d</sup>Associação Brasileira de Ensaios Não Destrutivos e Inspeção, ABENDI, São Paulo, Brazil

**Abstract.** The real evolution of the alpha value in Brazil has been performed three times in 1993 and 2000 making use of the procedure advised by ICRP and in 2004 making use of the procedure recommended by the IAEA. In both, the first two papers were made various projections for the coming years until 2025. Because of the great social and economic crisis in which the country (Brazil) is going, we decided to reassess the alpha value of our country and compare it with the projections of the two previous papers. Therefore, we decided to make a dollar correction from that time to the current dollar, comparing the purchasing power from that time to the current. This procedure has shown us the great gap of value in use and that the actual value should be two to three times higher. By GDP per capita, we could calculate the alpha value updated to various countries including the European Union and compare them with the official value currently in use. In conclusion, we believe that all countries that adopt an alpha value should upgrade it to the present day.

**KEYWORDS:** *Brazilian alpha value evolution; new alpha values for some countries; average dollar value in the future.*

Radiation Protection Dosimetry (2017), Vol. 173, No. 1-3, pp. 69–72  
doi:10.1093/rpd/ncw352