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PREFACE

In the current era, data serves as the foundation for advancing intelligent systems across various sectors. The transition from agricultural to industrial, and subsequently to information societies, has brought us to the cusp of Industry 4.0—a stage where digital transformation thrives on the capacity to store, analyze, and interpret vast amounts of data. These capabilities have exponentially enhanced the functionality and impact of products and services, shaping them to be more adaptive, predictive, and autonomous.

At the core of this evolution lies the interplay between data science and artificial intelligence (AI). Data science offers the methodologies and computational power to manage and interpret extensive datasets, while AI, drawing from these insights, enables systems to simulate human-like reasoning and learning. Together, they create intelligent systems with applications across all scientific domains. ICONDATA'24, the 6th International Conference on Data Science and Applications, aims to bring together academia and industry on a platform dedicated to advancing these fields. The conference was held in Pristina, Kosovo, from September 2–6, 2024, showcasing cutting-edge research that illustrates the role of data science and AI in shaping tomorrow's innovations.

The principal objective of ICONDATA'24 is to present recent data-driven research across disciplines. This conference provides a unique venue for professionals from diverse fields to exchange innovative ideas, share practical applications, and foster interdisciplinary collaborations that bridge natural and social sciences. With blind peer review and rigorous evaluation standards, accepted papers were selected based on originality, technical depth, relevance, and clarity. Those aligning with the conference's focus will be considered for publication in *Data Science and Applications* and *Veri Bilimi Journal*, ensuring continued dissemination of high-impact findings.

Our gratitude extends to the supporting institutions, including AAB College, Yalova University, Sakarya University of Applied Sciences, Isparta University of Applied Sciences, Istanbul Esenyurt University, and Bilecik Şeyh Edebali University, for their support of ICONDATA'24.

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Computatiton of Gamma Ray Interaction Properties of Some Sb-added Brasses for Potential Applications

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Abstract

In this study, gamma ray interaction parameters of some brass alloys have been investigated in the large energy region. For this aim, the standard brass alloy (Cu65Zn35) was firstly examined. Then, different amounts of Sb contributions were taken into account. In this context, mass attenuation coefficients (MAC), mean free paths (MFP), half value of layers (HVL) and build up factors were calculated for all alloy types in a wide energy range. Brass with additives were compared with standard brass. It has been determined that Sb addition improves the radiation interaction properties of standard brass. Additionally, a large data set was obtained for the brasses for potential radiation applications.

Keywords: *Gamma ray, attenuation, brass*

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