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The History of Trigonometry teaching in Greece (1836-present)
Abstract :
In the current greek school books, the students get introduced to Trigonometry in the second grade of junior high school. The tangent of an angle, its sinus and its cosinus, are all defined as ratios of sides of right triangles. The greek word for sinus though, which is "ημίτονο", pronounced as "imitono", means "half-chord", and can not immediately be related to the ratio definition. Its roots go back to Ptolemy and his initial definitions that were using chords of circles in his famous Almagest. The term "ημίτονο" first appears in greek bibliography in "Οδός Μαθηματικής" by Methodios Anthrakitis, printed in Vienna in 1749 and used as a school book during the last years of the Ottoman rule (Kastanis and Thomaides, 2003). In this ongoing project, we study the Trigonometry teaching in greek secondary education, from the establishment of the greek state until now. We are particularly interested in how the relevant curriculum was developed, how the trigonometric terms were presented in the school books and in which ways Trigonometry was related to the other mathematical areas being taught during that period. From the first study programs developed in 1836 by King Otto's advisors (Kastanis I. and Kastanis N., 2006), through the New Mathematics reforms in the 60's, and all the way to the present curriculum , we discuss the changes school trigonometry has undergone and the reasons that led to those changes. Bibliography Kastanis, I; Kastanis, N; The Transmission of Mathematics into Greek Education, 1800–1840: From Individual Initiatives to Institutionalization; Paedagogica Historica 42(4-5), 515-534 Thomaides, G; Toumasis, N; Οι δρόμοι του ημιτόνου: Από τη Βενετία στη Νεοελληνική παιδεία και πίσω στην Βυζαντινή παράδοση; Technical Report 4, 2003, Mathematics Department, Aristotle University of Thessaloniki, (in Greek)