

**About the Authors:**

Dr. Andrzej Elminowicz is a Principal Specialist, Senior Designer and Project Manager in Ships Systems Division, CTM. He has over 30 years engineering experience in hydroacoustic and for the past 10 years he has been developing advanced acoustic system as antitorpedo defense, active stationary sonar, minehunting sonar, DDS sonar and acoustic barriers.

Leonard Zajączkowski holds M.Sc. in physics and B.E. in electronics. He has over 30 years marine experience: first 10 years as Surveyor of Polish Register of Shipping and next 20 years as research–development employer in CTM. At present he is a Senior Specialist in the firm. He has been involved in research of naval ship's signature and research related to an antitorpedo defense, acoustic barriers and DDS sonar.