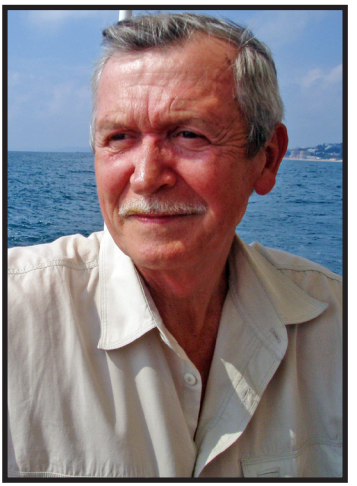
Obituary of Georgii D. Kozak
1941 – 2013



Professor Georgii Dmitrievich Kozak has passed away, and thus the field of experimental physics of explosions has suffered a serious loss. He was a gifted scientist, a great organizer of science, a respected teacher at the Mendeleev University of Chemical Technology, and an Honoured Worker for Education.

Georgii D. Kozak graduated from the Mendeleev Institute of Chemical Technology in 1964, and defended his thesis for the degree of 'candidate of technical sciences' in 1972. He worked his way up from assistant to full professor and supervised ten Ph.D. students. For 30 years he was the scientific secretary of the Specialized Council at MCTI-RCTU, and in recent years he was a member of the editorial board of the *Central European Journal of Energetic Materials*. During his distinguished career he published about 200 scientific papers on the physics of combustion and explosions, both in Russia and abroad. The results of his research were presented at international symposia and conferences in Germany, France, the Czech Republic, the USA, and China.

The main scientific interest of Kozak's studies was to investigate the detonation mechanism of condensed explosive systems. Together with colleagues he discovered the phenomenon of 'detonation catalysis' of liquid explosives by amines, some unsaturated substances, and cyclic compounds. By the addition of small amounts of these catalytic substances, the detonatability of explosives became dramatically increased. Due to simple but carefully designed experiments on aeration, the right choice of the charge shell and temperature conditions, Georgii Kozak managed to observe stable detonation in such 'incapable-of-detonation' substances as nitrobenzene, propargyl alcohol, iso-propylbenzene hydroperoxide, benzoyl peroxide, molten nitrotoluenes, and liquid blends of nitrotoluenes with oleum. These studies have played a critical role in refining the safe conditions for the industrial production of TNT and other powerful explosives. In addition Georgii Kozak was one of the few experimenters who obtained distinct traces on witness plates from spin detonation regimes in charges

of cast explosives. Among his most important scientific articles, the following should be mentioned: "*Critical conditions for low and high velocity regimes in liquid nitrocompounds*", "*The influence of sulfuric acid on the detonation reactions of nitrocompounds*", "*The failure thickness of detonation of solutions of strong nitric acid*", "*The spin-pulsating regime of detonations in solid and liquid explosives*", "*Factors augmenting the detonability of energetic materials*". Kozak's published scientific results have been deservedly incorporated into the treasury of the national and international literature on the physics of explosions.

Professor Georgii D. Kozak will remain a sociable and friendly personality in the memory of his many colleagues, students, and graduate students at Mendeleev University, and he is deservedly recognized and respected by many scientists worldwide.

Professor A.V. Dubovik, Dr. V.M. Raikova and colleagues