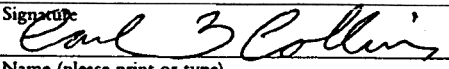


Date received by  
the Nobel Committee:

**NOMINATION FOR THE AWARD OF THE 1995 NOBEL PRIZE  
FOR PHYSICS**

Nominations (in English, French or German) must reach the Nobel Committee *before* February 1, 1995.  
Nominators must not make public the names of nominees nor inform nominees privately of their proposals.

Candidate(s)	1	Name <b>Dr. (Mrs.) Denisa POPESCU</b>
		Position or title <b>Research Scientist - Retired</b>
		Mailing address <b>Str. Fizicienilor 6, Bl. M4, Ap. 6, Sector 6, Bucharest/Magurele ROMANIA</b>
	2	Name
		Position or title
		Mailing address
	3	Name
		Position or title
		Mailing address
The nomination is based on the discovery (invention) of	<b>Discovery of Atomic Multiphoton Spectra</b>	
Description	<p>Grounds for nomination. (Detailed specification of grounds, bibliography, curriculum vitae and other relevant documents may be appended.)</p> <p>As a part of a Program of US-Romanian collaboration in atomic physics, this brilliant colleague from Bucharest experimentally discovered multiphoton spectra of atoms, a result so far reaching it spawned the important field of Multiphoton Spectroscopy. It was in this field Arthur Schawlow developed the particular aspects of Laser Spectroscopy for which he was awarded the 1981 Nobel Prize in Physics.</p> <p>The seminal paper was "Multiphoton Excitation and Ionization of Atomic Cesium with a Tunable Dye Laser," by D. Popescu, C. B. Collins, B. W. Johnson, and Iovitzu Popescu, Phys. Rev. A9, 1182-1187 (1974) in which the first multiphoton spectrum of an atom was reported. In particular unequivocal line spectra of the two photon Rydberg series of cesium was shown and identified. A copy is attached.</p> <p>As often happens this original discovery was eclipsed in a matter of months by the report of "Doppler-free multiphoton spectra," a dramatic improvement in resolution reported in Letters-type journals. However, if the receipt dates of the publications are compared, it can be seen that Mrs. Popescu's discovery preceded the widely respected improvement by over a year.</p> <p>Without breaking confidence it was not possible to obtain a biography of Dr. Popescu. It is my understanding that she was born in Braila, Romania, educated in Romania and is in her early 60's. Before and after her major discovery, she was chief of a laboratory at the Central Institute of Physics of Romania, in some years reorganized into the Institute of Atomic Physics (IFA.) The actual discovery was made in my laboratory in Dallas as part of the cooperative program mentioned above. It is my affirmation that she was the principal scientist in this collaboration and is deserving of the distinction of the discovery. (Continued p.2)</p>	
Nominator	Signature 	Position or title <b>Professor of Physics Chairman, IUPAP C-17 Commission on Quantum Electronics</b>
	Name (please print or type) <b>Carl B. Collins</b>	
	Mailing address <b>Univ. of Texas at Dallas, MS/ NBL1</b>	
		Date <b>Jan. 20, 1995</b>
		<b>POBox 830688, Richardson TX 75083-0688 US</b>

NOMINATION (Continuation - p.2)

After return to Romania Mrs. Popescu continued her research and we enjoyed further collaboration, despite the difficulties of the Ceaucescu years. However, the self-built lasers available to us were no match for those acquired by colleagues at the well supported institutions and her contributions were rapidly forgotten as the field of multiphoton spectroscopy blossomed. What publication list that is available to me is attached and evidences that opportunities and health failed with the excesses of the Ceaucescu years and she elected a medical retirement. Happily the health stabilized and Mrs. Popescu enjoys a quite, if loose attachment to younger students at her original laboratory.

It is my considered opinion that either if Mrs. Popescu's work had been done at one of the more visible institutions or if she had not been subsequently isolated by the Romanian insanity of the late 70's and 80's, she would have already received the Nobel Prize for her extraordinary discovery. It is my belief that her brilliant discovery of the multiphoton spectra of atoms fully qualifies for the Nobel Prize.