

## **Study of a two-stage electrothermal atomizer with transverse heating for atomic-absorption spectrometry**

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### **Abstract**

This paper discusses the dynamics of the formation of absorbing layers in a conventional atomizer with transverse heating and in a two-stage atomizer. An experimental apparatus is described that provides digital recording of the optical density with temporal, spectral, and spatial resolution in the cross section of the atomizer. The influence of pyrolysis on the formation of atomic and nonselective-absorption signals in a two-state atomizer is investigated. Using the atomization of sodium chloride as an example, it is shown that the use of high-temperature pyrolysis and an additional vaporization stage - fractional condensation - in a two-state atomizer makes it possible to lower the level and the degree of spatial inhomogeneity of nonselective absorption. © 2004 Optical Society of America.

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