

(12) **United States Patent**
Hirose et al.

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(54) **X-RAY FLUORESCENCE SPECTROMETER COMPRISING A TEMPERATURE SENSOR, TWO EXTERNAL-AIR FANS, AND A CIRCULATION FAN**

USPC 378/44-50, 130, 141, 199, 200
See application file for complete search history.

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(57) **ABSTRACT**

(51) **Int. Cl.**
G01N 23/223 (2006.01)
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An X-ray fluorescence spectrometer includes: an X-ray source which irradiates a sample with primary X-rays; a light condensing device which condenses the primary X-rays to reduce an irradiation area on the sample; a detector which detects fluorescent X-rays produced from the sample irradiated with the primary X-rays; a housing which accommodates the X-ray source and the light condensing device; a temperature sensor which is disposed in at least one of the X-ray source and the periphery of the X-ray source; at least one external-air fan which is disposed on the housing, and which can exchange internal air with external air; and a control section which drives the external-air fan based on temperature information detected by the temperature sensor, to adjust the ambient temperature around the X-ray source to a constant temperature.

(52) **U.S. Cl.**
CPC **G01N 23/223** (2013.01); **H05G 1/025** (2013.01); **G01N 2223/076** (2013.01); **G01N 2223/31** (2013.01)

(58) **Field of Classification Search**
CPC . G01N 23/2076; G01N 23/22; G01N 23/223; G01N 2223/076; G01N 2223/31; G01N 2223/3103; G01N 2223/3106; H05G 1/025; H01J 35/105; H01J 35/106; H01J 35/12

8 Claims, 1 Drawing Sheet

