Kaonic Nitrogen (October 2002)
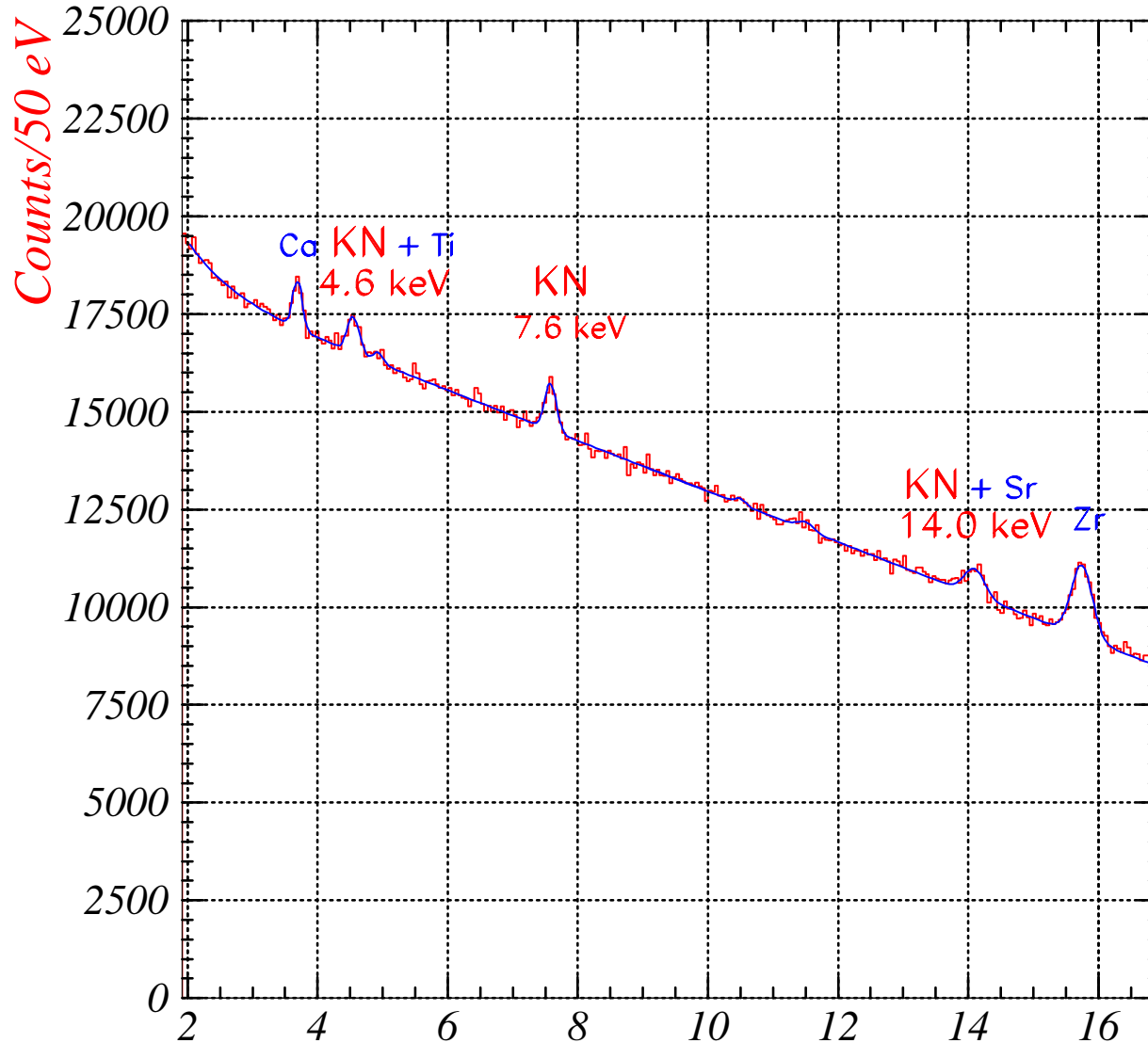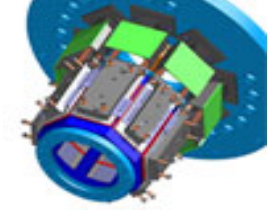
integrated luminosity 10 pb⁻¹

(T = 85 K,   P = 1.01 bar,   density = 4.4 g/l)

Pattern of 3 transitions:

7 -> 6 at 4.6 keV

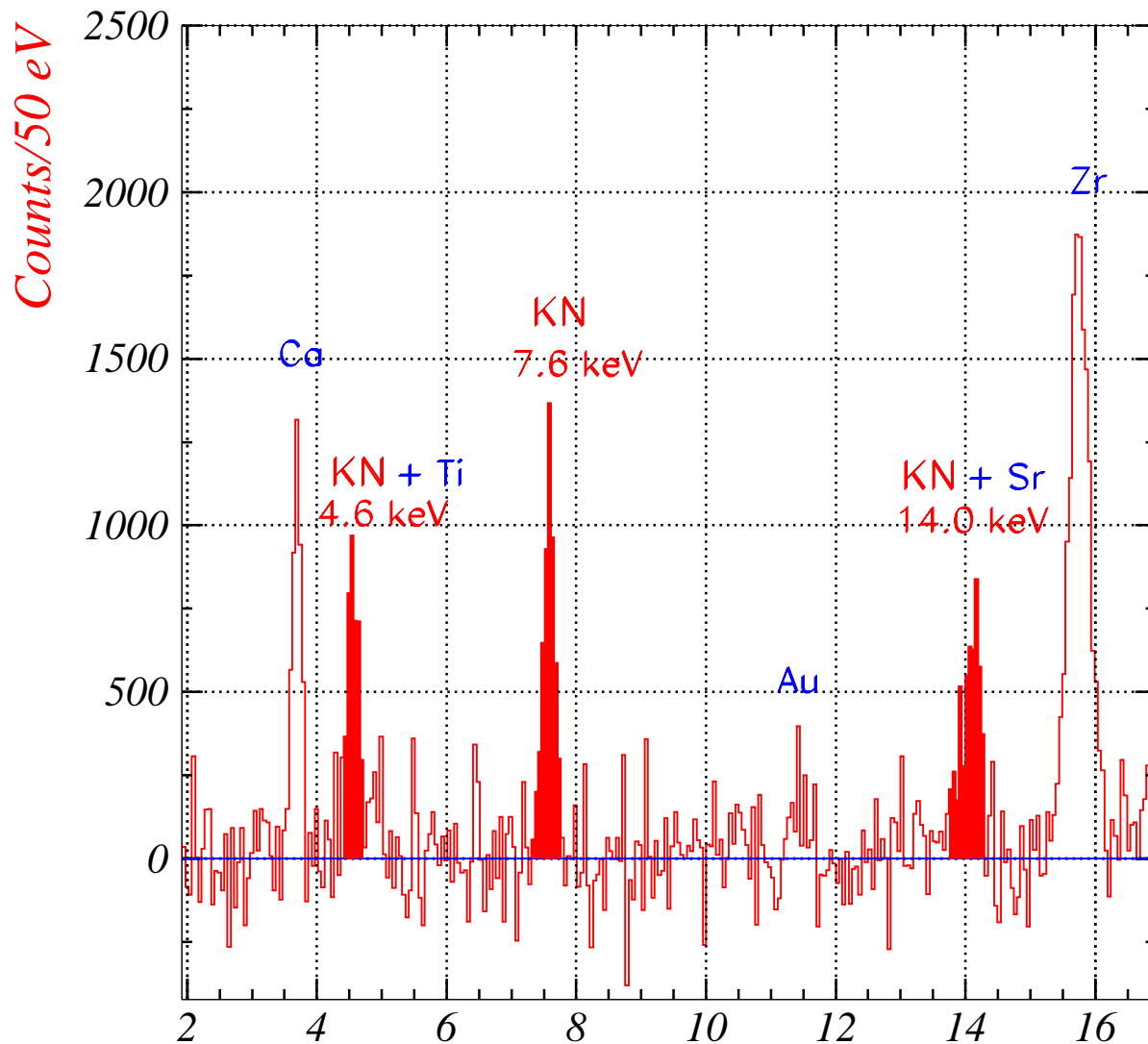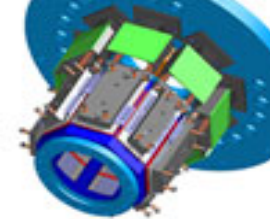**6 -> 5 at 7.6 keV**

5 -> 4 at 14.0 keV

Kaonic Nitrogen, 10 pb⁻¹ (October 2002)
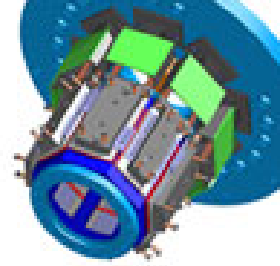## Background subtracted spectrum

Pattern of 3 lines:

2690 +/- 650 ev. at 4.6 keV

5320 +/- 395 ev. at 7.6 keV

1360 +/- 330 ev. at 14.0 keV

Kaonic Nitrogen Physics

- **First determination** of the yield of 3 Kaonic Nitrogen X-ray transitions:

  7 → 6 (33.7 +/- 8.1 +/- 3.4)%

  6 → 5 (55.5 +/- 4.2 +/- 5.5)%

  5 → 4 (66.4 +/- 15.6 +/- 6.4)%

- **Mass of the kaon** – as a test measurement:

  m_K- = 493.884 +/- 0.314 MeV

  (Ph. D. thesis,
  paper to be submitted to Phys. Lett. B)