TRI-MODEL DIAGRAMS FOR DEPICTING RELATIONS OF MEASURABLE ATMOSPHERIC ION DENSITIES AND MAGNITUDES OF SUBSEQUENT EARTHQUAKE

K. Wadatsumi, R. Haraguchi

and K. Okamoto

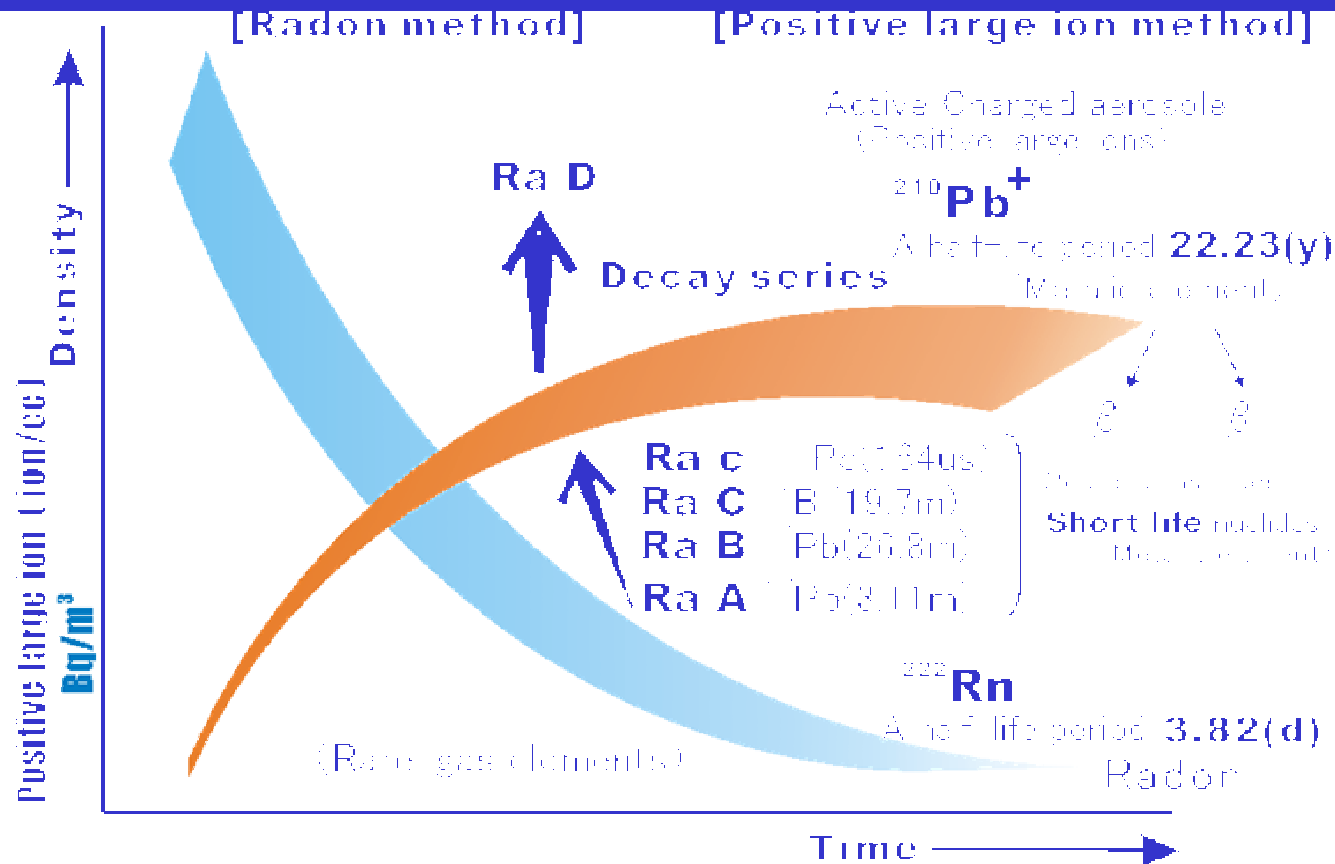*Okayama University of Science*
OKAYAMA, JAPAN

2001/08/22   IAGA and IASPEI 2001

Fig.1 Schematic diagram of natural ²²²Rn-²¹⁰Pb series in environmental air

Fig.2 Earthquake prediction methods using anomalies of ground water radon and atomospheric ion
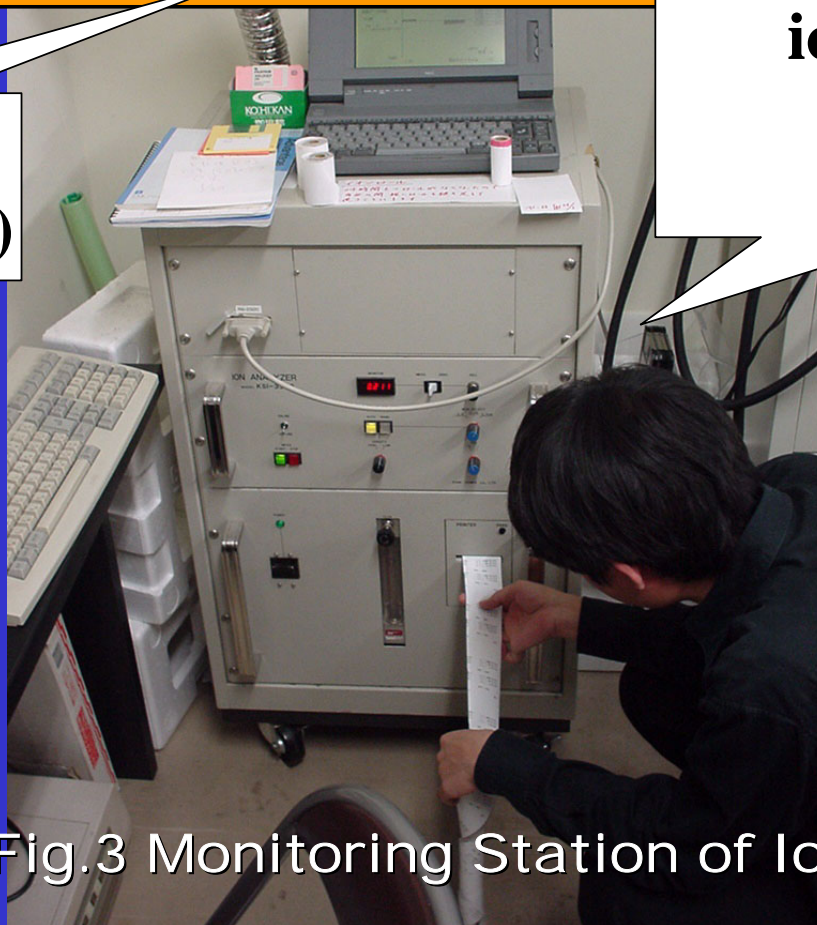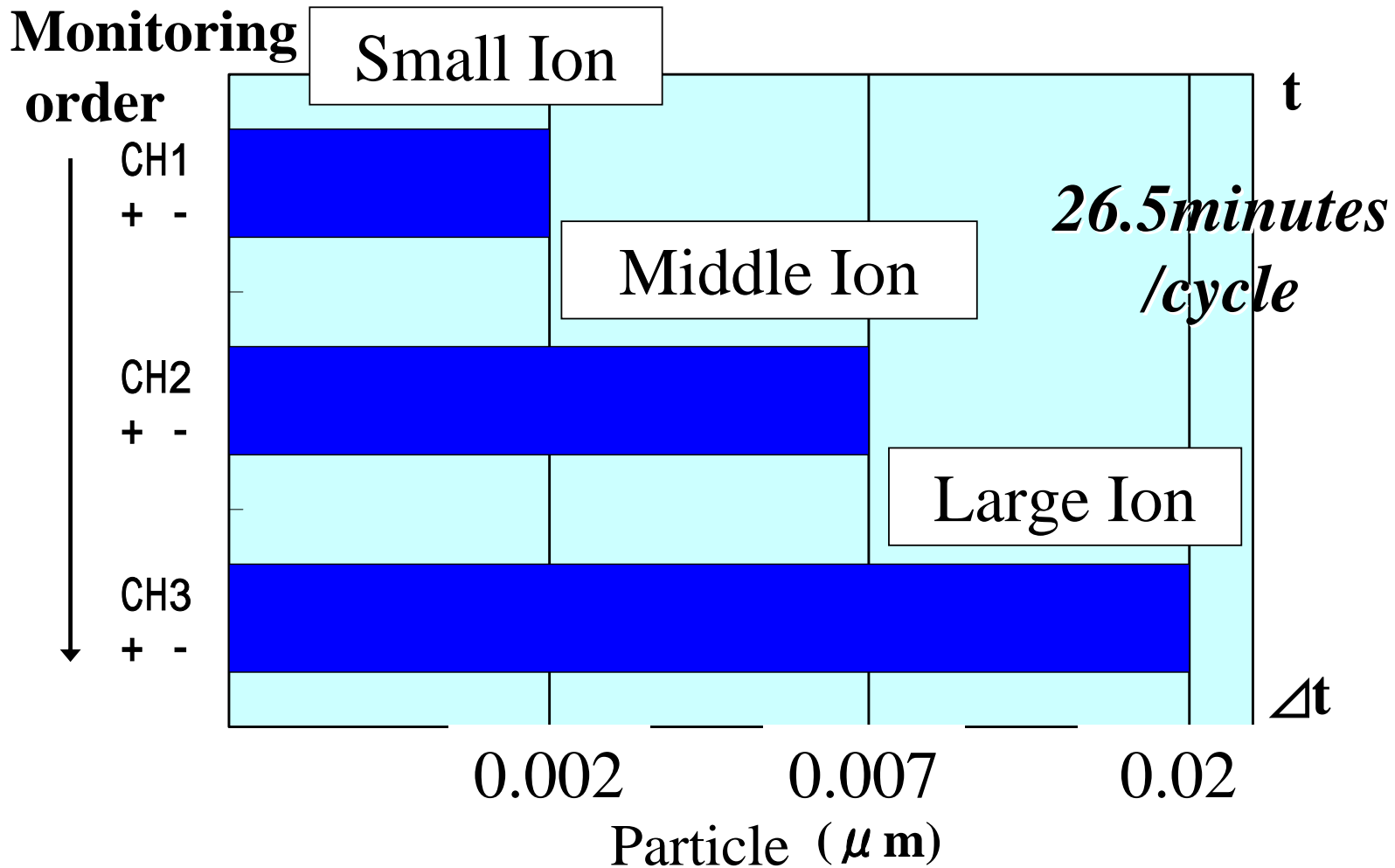
Fig.3 Monitoring Station of Ion

Fig.4 A kind of Particle

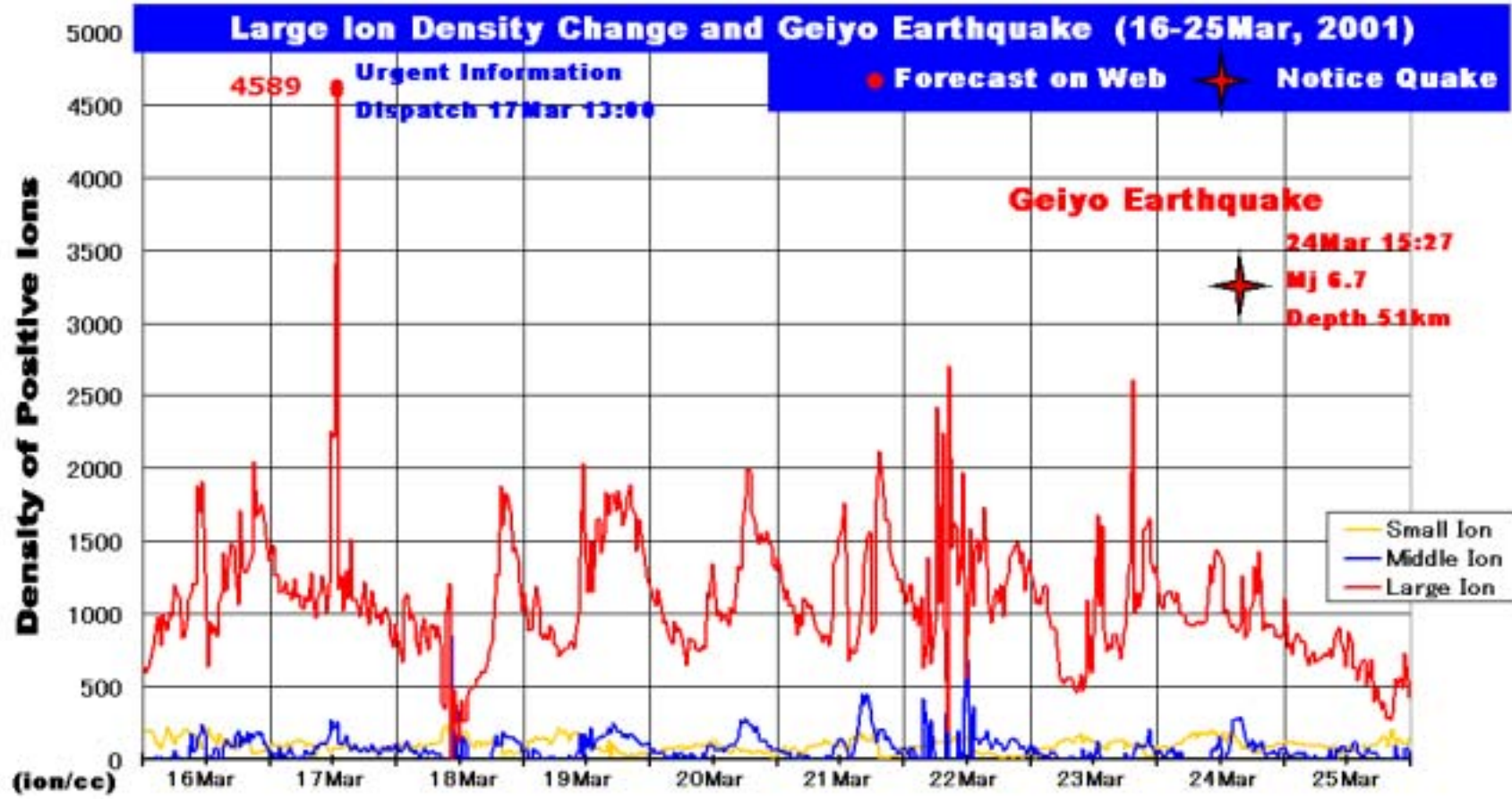Counting 3kind of Particles Density(ions/cc)

Fig. 5 Graphic model for small-middle earthquakes (Ion density 5,000 ions/cc for a week)
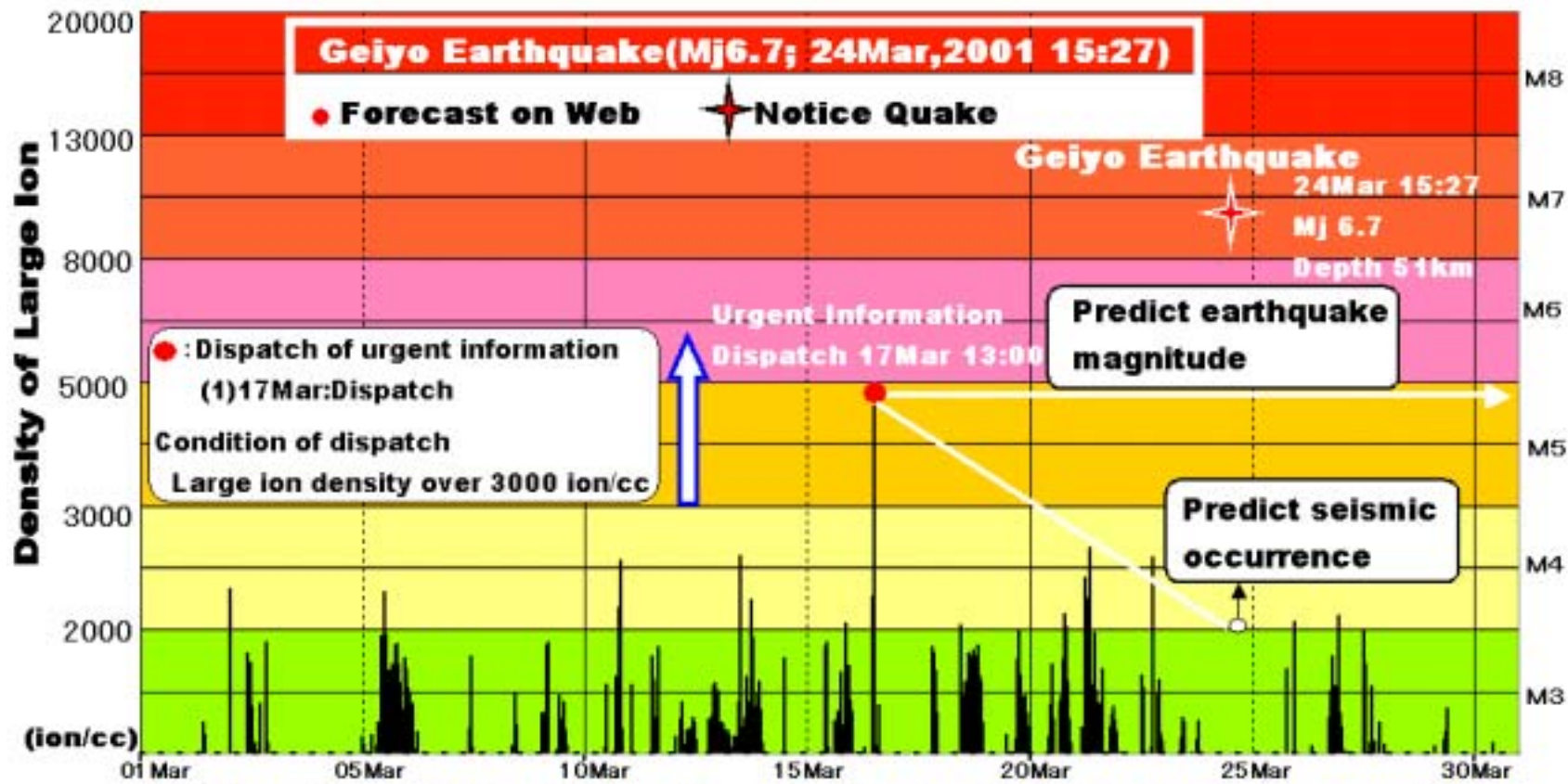
Fig.6 graphic model for middle earthquakes (Ion density 20,000 ions/cc for a month)
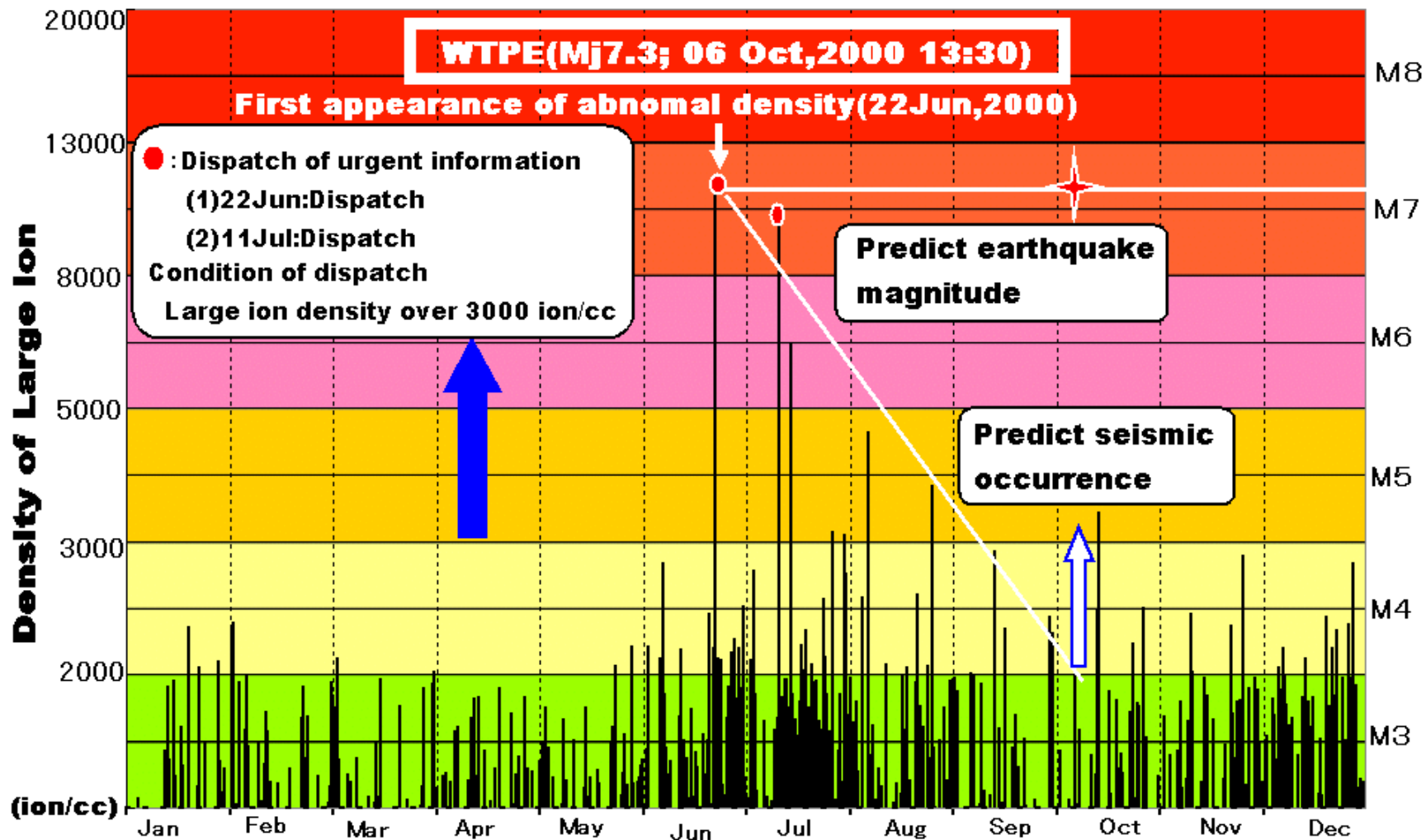
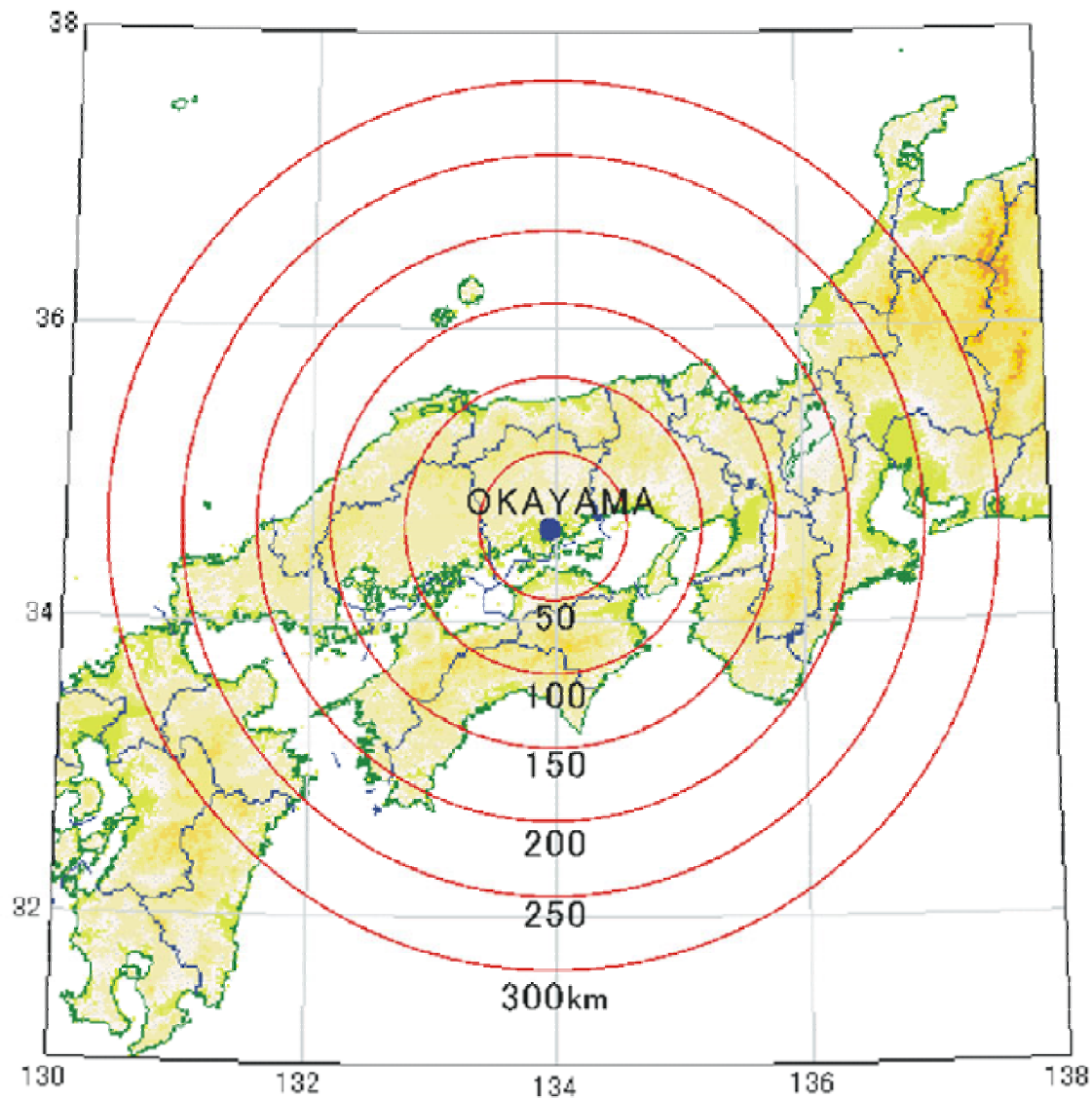Fig.7 graphic model for large earthquakes (Ion density 20,000 ions/cc for a year)

Fig.8 Map of a 300km circular area from the single
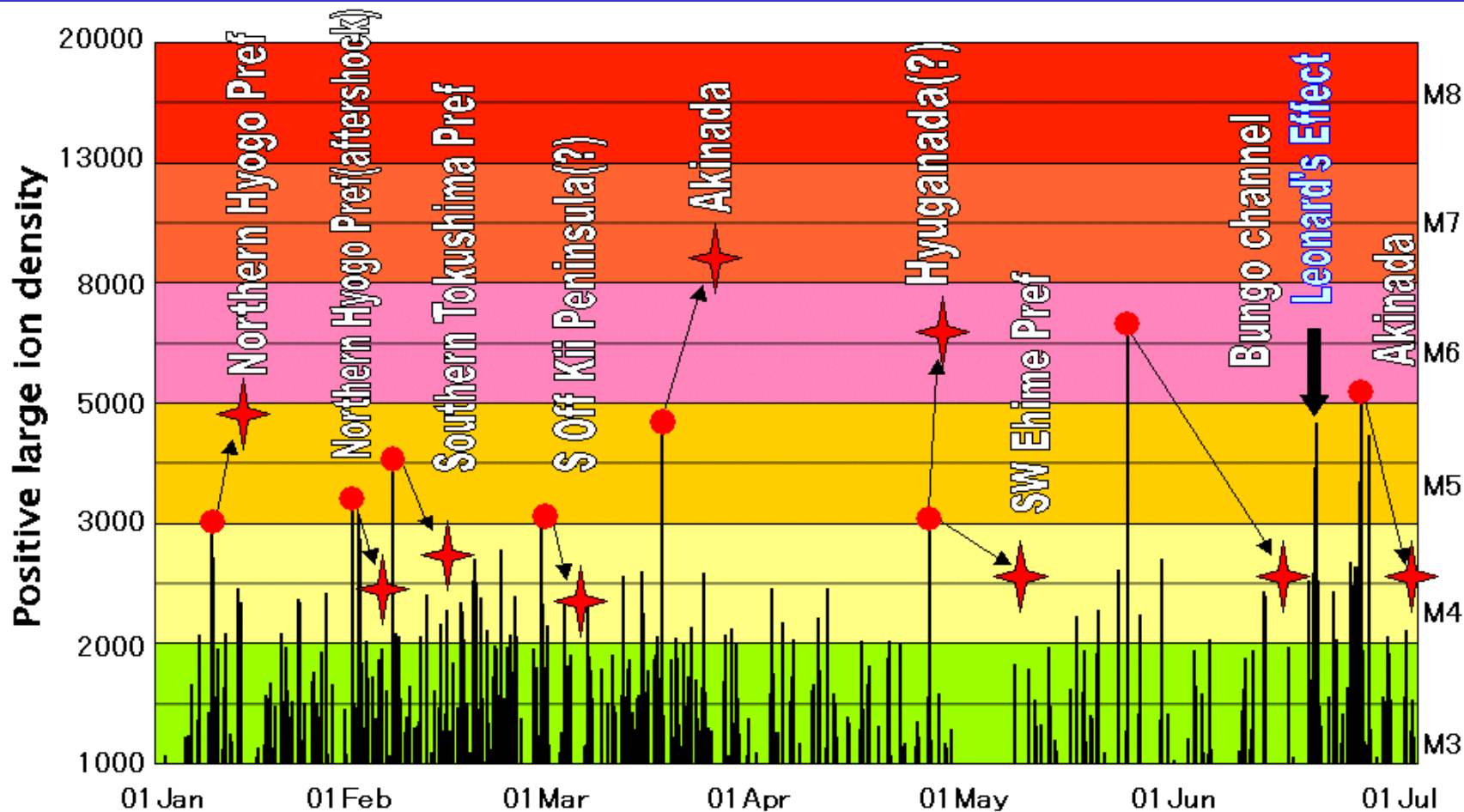monitoring station of Okayama University of Science

Fig.9 Atmospheric Ion Densities and Magnitudes of Subsequent Earthquakes
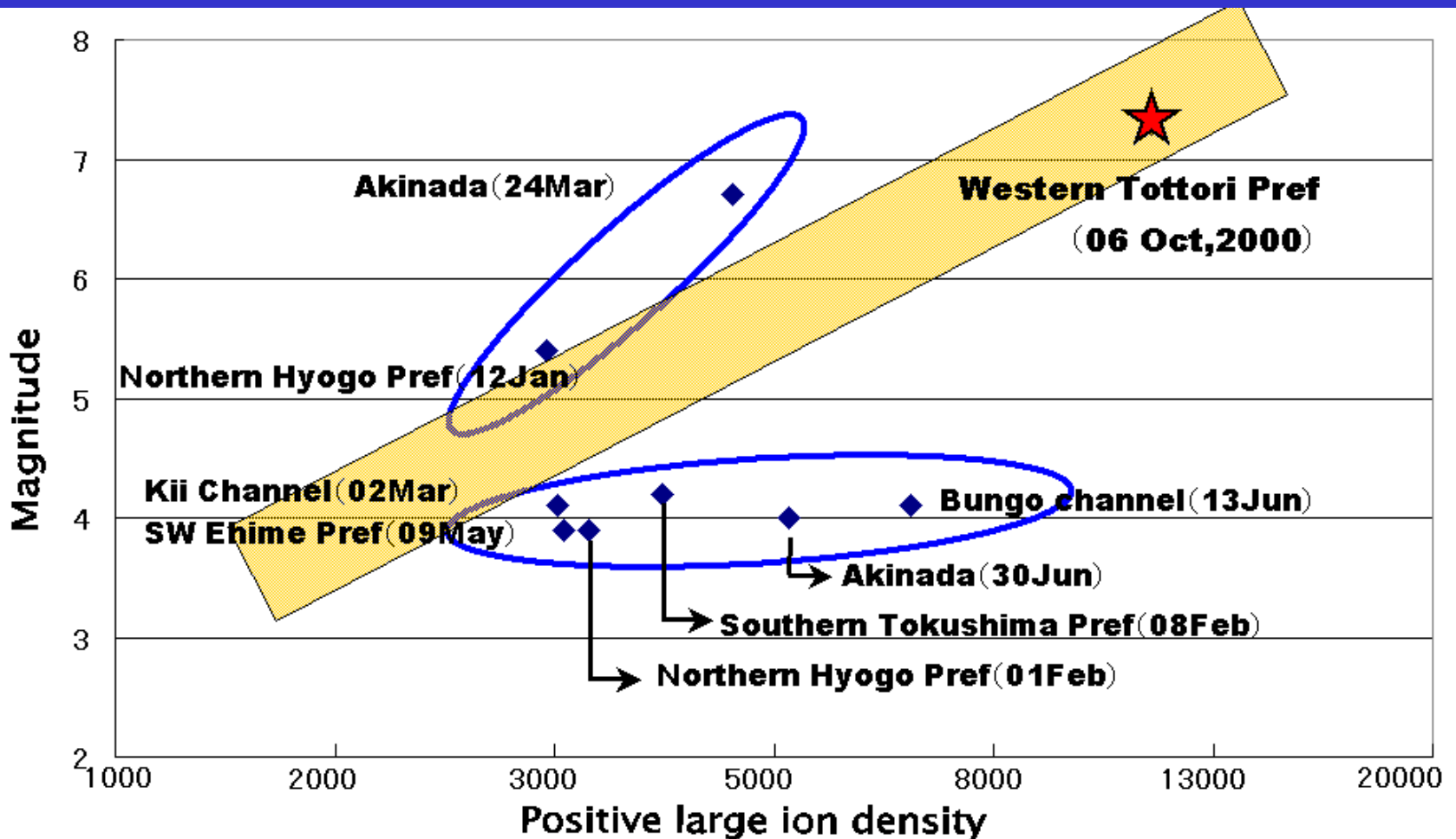
(in 2001)

Fig.10 Atmospheric Ion Densities and Magnitudes of Subsequent Earthquakes

(in 2001)

Earthquake prediction methods

Radon methods using anomalies of ground water radon density

Positive large ion method using anomalies of atmospheric ion density

Positive large ions

Tiny metalic elements of ^{210}Pb produced from ^{222}Rn decay

Active charged aerosole by continuous $^{-}$ radiation of ^{210}Pb

Wide spreading naturally in the air and grow up to Positive large ions

Large ions deposits on the ground after several days

Monitoring station for ion density

・A single station at OUS (from Sep.1997〜Jul.2002)

・Multiple station through Japan (from Jul.2002〜)

CONCLUSION-B

Tri-model diagrams

    (1) For small earthquakes (ion density 5,000 ion/cc for a week)

    (2) For middle earthquakes (ion density 20,000 ion/cc for a mouth)

    (3) For large earthquakes (ion density 20,000 ion/cc for a year)

       i.e. (Tottori model)

Application of the Tottori model

    (1) Apply for 8 earthquakes during Jan-Jun in 2001

    (2) They classifed into different three groups

    (3) The reason should be analyed in the next reserch steps