

## UPDATE FROM THE CUTTING EDGE

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The abstracts of the recent research information appearing in Vol.12 No.10-12 of "AIST TODAY" are introduced here, classified by research areas. For inquiry about the full articles, please contact the authors via e-mail.

Environment and Energy

### Recovery of specific kinds of electronic devices from waste printed circuit boards Advanced physical separation process to realize strategic metal recycling

Advanced physical separation processes have been developed to realize strategic metal recycling. One is a double tube pneumatic separator and another is a magnetic-shape separator. The double tube pneumatic separator, which is one kind of gravity separators, separates particles into light, medium, and heavy products. Especially, this separator can recover specific electronic devices as the medium product by automatic control. Several kinds of electronic devices such as tantalum capacitors and ceramic capacitors, which have different densities, can be recovered automatically. The magnetic-shape separator is a hybrid separator of a low intensity magnetic separator and an inclined-belt shape separator. The inclined-belt part can recover aluminum capacitors which are cylindrical shape. The magnetic part, which has a uniform and very low intensity magnetic field, can recover only iron-rich electronic devices such as quartz resonators.

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Mechanism of the double tube  
pneumatic separator

