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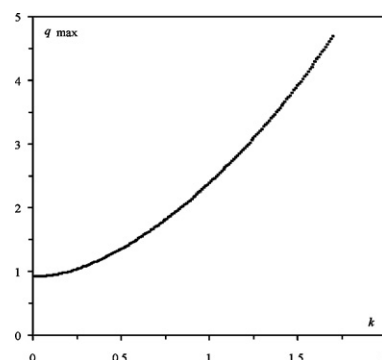
Regular articles

1–5

Theoretical study of the effect of damping force on higher stability regions in a Paul trap

Iman Ziaeiian, Houshyar Noshad

Four stability regions as well as q_{\max} versus damping factor were computed for a Paul trap in the presence of damping force.



6–10

Uncertainty assessment of Si molar mass measurements

G. Mana, E. Massa, S. Valkiers, G.-D. Willenberg

The uncertainty of the Si molar mass measurement is investigated by means of a two-isotope model, with particular emphasis to the determination of the Avogadro constant via an enriched ^{28}Si crystal (see picture). An explicit calibration formula is given and propagation of error analysis is made. It also shows that calibration cannot correct for non-linearity.

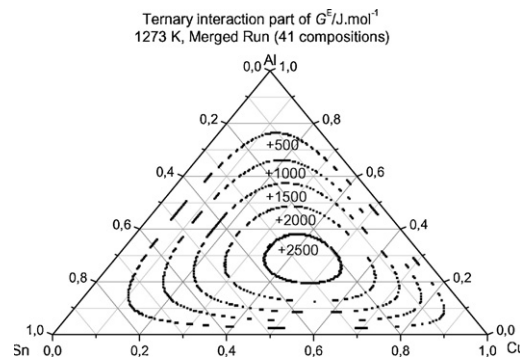


11–29

Knudsen effusion mass spectrometric determination of mixing thermodynamic data of liquid Al–Cu–Sn alloy

L. Bencze, R. Milačič, R. Jaćimović, D. Žigon, L. Mátyás, A. Popovič

The vaporisation of a liquid Al–Cu–Sn system has been investigated at 1273–1473 K by Knudsen effusion mass spectrometry (KEMS) and the data fitted to a Redlich–Kister–Muggianu (RKM) sub-regular solution model.

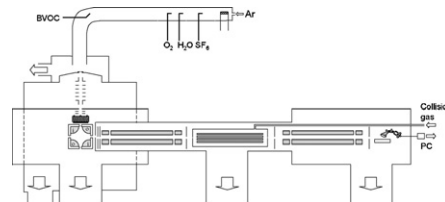


30–38

Collision induced dissociation in a flowing afterglow-tandem mass spectrometer for the selective detection of C₅ unsaturated alcohols and isoprene

Juliette Rimetz-Planchon, Niels Schoon, Crist Amelynck, Frederik Dhooghe

Based on selective chemical ionization and collision induced dissociation of ions, six unsaturated C₅ alcohols and isoprene were identified by flowing afterglow-tandem mass spectrometry.

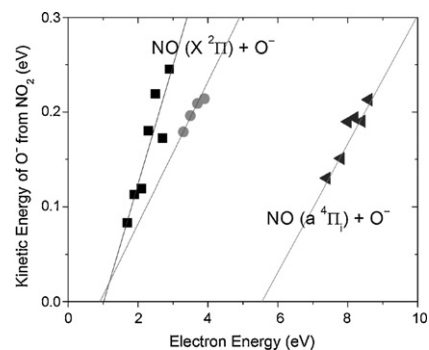


39–46

Dissociative electron attachment to polyatomic molecules: Ion kinetic energy measurements

Dhananjay Nandi, E. Krishnakumar

Kinetic energy of dominant ions from dissociative electron attachment to SO₂, NO₂, NF₃ and H₂O₂ are measured to obtain the dissociation limits of various negative ion resonances and the energy budget of the process.

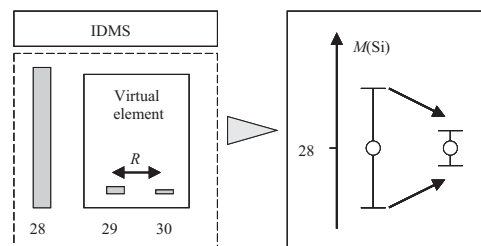


47–53

Novel concept for the mass spectrometric determination of absolute isotopic abundances with improved measurement uncertainty: Part 1 – theoretical derivation and feasibility study

Olaf Rienitz, Axel Pramann, Detlef Schiel

A novel IDMS method using a “virtual element” was developed as a tool to determine the molar mass of highly enriched silicon while reducing its associated measurement uncertainty.



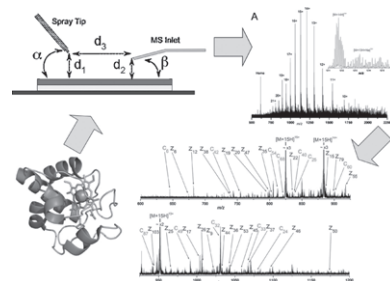
Short communications

54–57

Top-down protein sequencing by CID and ECD using desorption electrospray ionisation (DESI) and high-field FTICR mass spectrometry

Adam A. Stokes, David J. Clarke, Stefan Weidt, Pat Langridge-Smith, C. Logan Mackay

High resolution single-acquisition protein mass spectra obtained using DESI FTICR-MS are presented and, for the first time using this technique, a top-down analysis of an intact protein was performed.



58–63**Applications of proton transfer reaction time-of-flight mass spectrometry for the sensitive and rapid real-time detection of solid high explosives**C.A. Mayhew, P. Sulzer, F. Petersson, S. Haidacher, A. Jordan,
L. Märk, P. Watts, T.D. Märk

Using proton transfer reaction mass spectrometry, proof-of-principle investigations are reported to illustrate the capabilities of detecting solid explosives (RDX, TNT, HMX, PETN and Semtex A) in real-time.

