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MRS Bulletin



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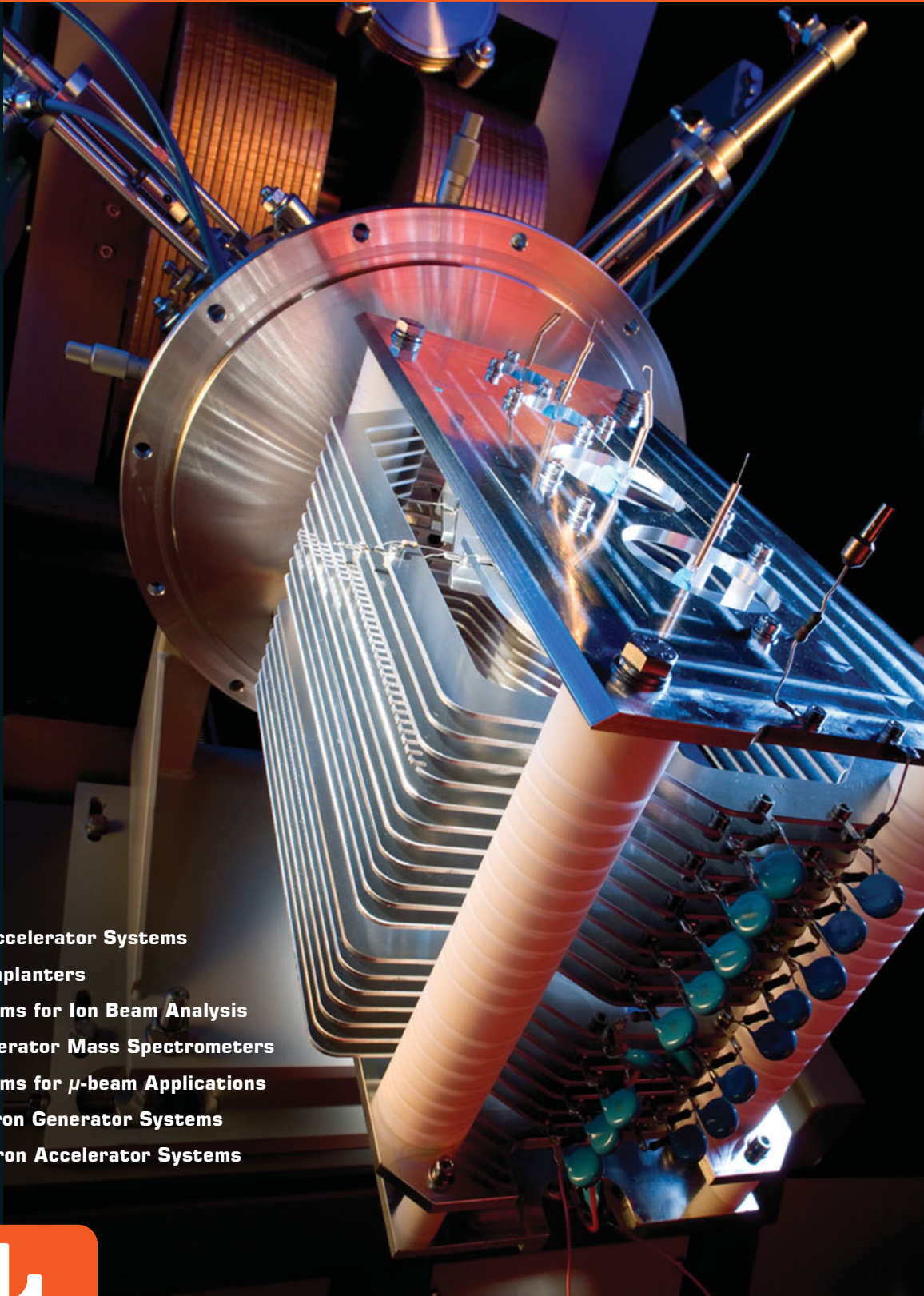
Nitrogen-vacancy centers: Physics and applications

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A perspective from atoms
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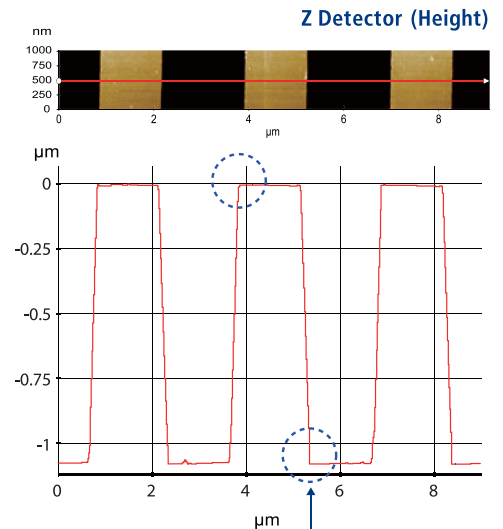
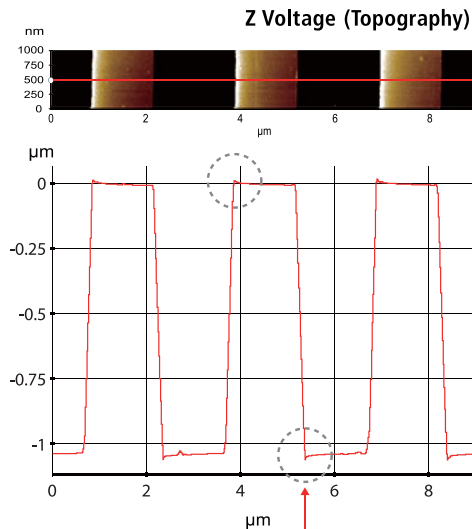
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Piezoelectric creep effect

No creep effect

Sample: 1 μm Nominal Step Height (9 μm x 1 μm, 2048 pixels x 128 lines)

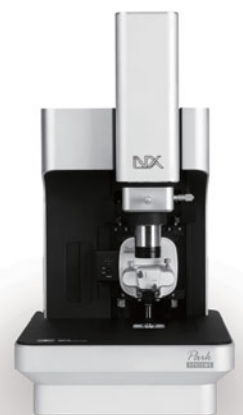
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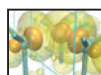
The Park Systems NX technology builds on the company's leadership in AFM data accuracy and is available for both research and industrial enthusiasts. The Park NX10 provides researchers with a premium research-grade small sample AFM. For users needing larger sample capacity, the Park NX20 provides a high end large sample AFM, often required in hard disk and semiconductor industries for failure analysis.



THE ACCURATE CHOICE I

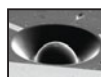
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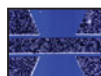


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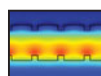
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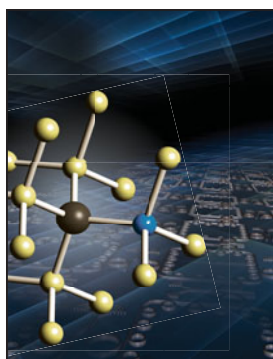
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ON THE COVER

Nitrogen-vacancy centers: Physics and applications. This issue of *MRS Bulletin* highlights progress in realizing applications based on the nitrogen-vacancy (NV) center in diamond. The cover illustrates the NV center in diamond. The yellow circles are carbon, the black circle represents a vacant site in the diamond lattice, and the blue circle represents a nitrogen atom. The background is a schematic representation

of a conceptual diamond quantum computer. The shapes are light-guiding structures made from diamond. Images courtesy of Charles Santori, HP Labs, Palo Alto, CA. See the technical theme that begins on page 127.



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The Society's interdisciplinary approach differs from that of single-discipline professional societies because it promotes information exchange across the many technical fields touching materials development. MRS sponsors three major international annual meetings encompassing approximately 125 topical symposia, and also sponsors numerous single-topic scientific meetings. The Society recognizes professional and technical excellence and fosters technical interaction in local geographic regions through Sections and University Chapters.

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