DESCRIPTION

Vacuum is an international rapid publications journal with a focus on short communication. All papers are peer-reviewed, with the review process for short communication geared towards very fast turnaround times. The journal also published full research papers, thematic issues and selected papers from leading conferences.

A report in Vacuum should represent a major advance in an area that involves a controlled environment at pressures of one atmosphere or below.

The scope of the journal includes:
1. Vacuum: original developments in vacuum pumping and instrumentation, vacuum measurement, vacuum gas dynamics, gas-surface interactions, surface treatment for UHV applications and low outgassing, vacuum melting, sintering, and vacuum metrology. Technology and solutions for large-scale facilities (e.g., particle accelerators and fusion devices). New instrumentation (e.g., detectors and electron microscopes).
2. Plasma science: advances in PVD, CVD, plasma-assisted CVD, ion sources, deposition processes and analysis.
3. Surface science: surface engineering, surface chemistry, surface analysis, crystal growth, ion-surface interactions and etching, nanometer-scale processing, surface modification.

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Surface Scientists, Materials Scientists.

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GUIDE FOR AUTHORS

INTRODUCTION

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2. Plasma science; advances in PVD, CVD, plasma-assisted CVD, ion sources, deposition processes and analysis.

3. Surface science; surface engineering, surface chemistry, surface analysis, crystal growth, ion-surface interactions and etching, nanometer-scale processing, surface modification.


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Pressure: Authors are asked to use bar (bar), millibar (mbar) or the pascal (Pa).
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1 bar = 10⁵ Pa exactly
1 millibar (mbar) = 100 Pa exactly.

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The pascal can be combined with other SI units to give the units for other quantities commonly measured in vacuum science and technology. Some examples of these quantities are given below.

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1 m³ h⁻¹ = 1/3600 m³ s⁻¹ 0.000278 m³ s⁻¹).
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1 l s⁻¹ = 10⁻³ m³ s⁻¹.

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The SI unit for outgassing rate from surfaces is pascal metre cube per second per square metre (Pa m³ s⁻¹ m⁻²). Other commonly used units of outgassing rate with their conversion to the SI unit are given in the table.

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<td>0.01 mbar</td>
</tr>
<tr>
<td>technical atmospheres (kgf cm⁻²)</td>
<td>98.0665 kPa</td>
<td>10 mbar</td>
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<td>torr l s⁻¹</td>
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<td>10 mbar l s⁻¹</td>
<td>standard atmosphere (cm³ s⁻¹)</td>
<td>0.101325 Pa m³ s⁻¹</td>
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<td>cm⁻²</td>
<td>1333.22 Pa m³ s⁻¹</td>
<td>m⁻²</td>
<td>0.001 mbar</td>
<td>l s⁻¹ cm⁻²</td>
<td>Table of conversion factors</td>
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</tbody>
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