

Pseudopotential theory of dilute III-V nitrides

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המנהל הכללי של שירות המבחן
מחוז תל אביב

מס' תעודת זהות: 80401

מס' תעודת זהות: 72701

תאריך: 12 I 2002

מס' תעודת זהות: /17/851

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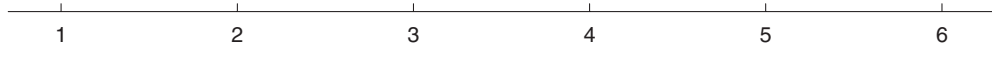
$\frac{d}{dx} \ln \frac{1}{x} = \frac{d}{dx} (-\ln x) = -\frac{1}{x}$
 $\frac{d}{dx} \ln \frac{1}{x^2} = \frac{d}{dx} (-2 \ln x) = -\frac{2}{x}$
 $\frac{d}{dx} \ln \frac{1}{x^3} = \frac{d}{dx} (-3 \ln x) = -\frac{3}{x}$
 $\frac{d}{dx} \ln \frac{1}{x^4} = \frac{d}{dx} (-4 \ln x) = -\frac{4}{x}$
 $\frac{d}{dx} \ln \frac{1}{x^5} = \frac{d}{dx} (-5 \ln x) = -\frac{5}{x}$
 $\frac{d}{dx} \ln \frac{1}{x^6} = \frac{d}{dx} (-6 \ln x) = -\frac{6}{x}$
 $\frac{d}{dx} \ln \frac{1}{x^7} = \frac{d}{dx} (-7 \ln x) = -\frac{7}{x}$

3.1. Derivatives of Logarithmic Functions

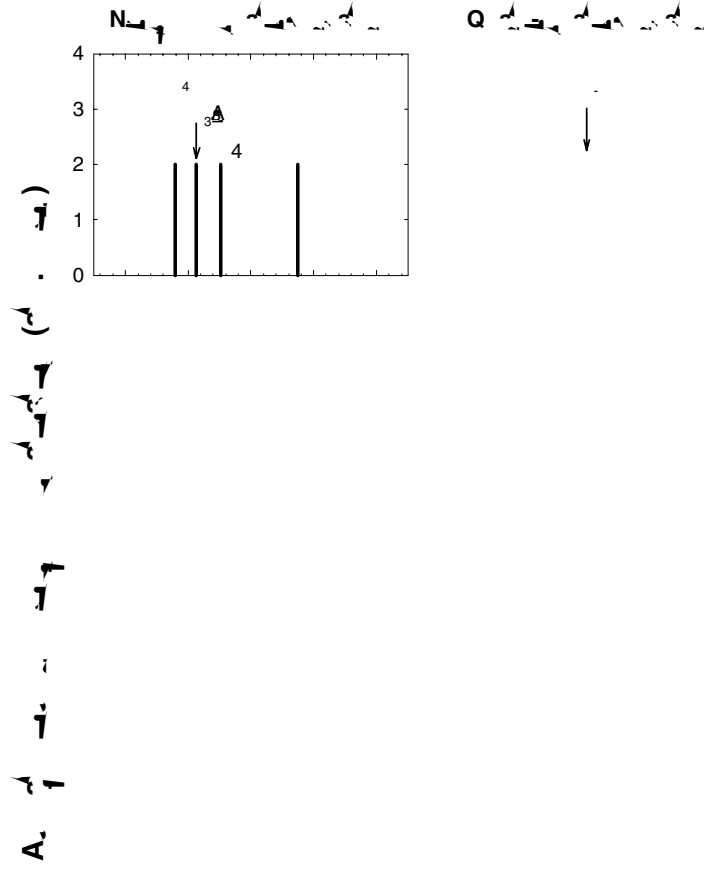
The derivative of the natural logarithm function is given by:
 $\frac{d}{dx} \ln x = \frac{1}{x}$
 For a general logarithmic function with base a , the derivative is:
 $\frac{d}{dx} \log_a x = \frac{1}{x \ln a}$
 The derivative of the logarithm of a function $u(x)$ is:
 $\frac{d}{dx} \ln u(x) = \frac{1}{u(x)} \cdot \frac{du}{dx}$
 For example, if $u(x) = x^2$, then:
 $\frac{d}{dx} \ln x^2 = \frac{1}{x^2} \cdot 2x = \frac{2}{x}$
 Similarly, for $u(x) = x^3$:
 $\frac{d}{dx} \ln x^3 = \frac{1}{x^3} \cdot 3x^2 = \frac{3}{x}$
 In general, for $u(x) = x^n$:
 $\frac{d}{dx} \ln x^n = \frac{1}{x^n} \cdot nx^{n-1} = \frac{n}{x}$

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- Z43 2000 A 2870
- Z44 I, 4 6
- Z45 I, 231
- Z46 1