XITS

Mathematical expressions must be formatted using different rules than those applied to the surrounding text. When markup is used, the limits of the mathematical text are defined explicitly. In plain text it is possible to use a number of heuristics for identifying mathematical expressions. *Once recognized, they can be treated appropriately,* for example expressions input as plain text could be tagged with a rich-text math style. Such math style would connect in a straightforward way to appropriate MathML tags.

$$f(x) = a_0 + \sum_{n=1}^{\infty} \left(a_n \cos\frac{n\pi x}{L} + b_n \sin\frac{n\pi x}{L} \right)$$

The size of *mathematical delimiters* or operators may change on the size of the enclosed text. In an **equation** such as

$$W^{3\beta}_{\delta_1\rho_1\sigma_2} = U^{3\beta}_{\delta_1\rho_1} + \frac{1}{8\pi^2} \int_{\alpha_1}^{\alpha_2} d\alpha'_2 \left[\frac{U^{2\beta}_{\delta_1\rho_1} - \alpha'_2 U^{1\beta}_{\rho_1\sigma_2}}{U^{0\beta}_{\rho_1\sigma_2}} \right],$$

the size of the bracket scales with the size of the enclosed expression, in this case a fraction, and the size of the integral could scale with the size of the integrand. The integral isn't scaled here, since common practice is to use one size for all larger integrals. This example also shows the positioning of multiple sub- and superscripts as well as the positioning of limit expressions on the integral. **Punctuation** following math in display is commonly placed on the local baseline or centerline. The example

$$\int_0^a \frac{x\,dx}{x^2 + a^2}$$

STIX Two

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