

The `braket` package

Macros for Dirac bra–ket $\langle | \rangle$ notation and sets $\{ | \}$

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Commands defined are:

`\bra{ }` `\ket{ }` `\braket{ }` `\set{ }` (small versions)

`\Bra{ }` `\Ket{ }` `\Braket{ }` `\Set{ }` (expanding versions)

The “small versions” use fixed-size brackets independent of their contents, whereas the “expanding versions” make the brackets and vertical lines expand to envelop their contents (internally using the `\left` and `\right` commands). You should use the vertical bar character “|” to input any extra vertical lines. In `\Braket` these vertical lines will expand to match the arguments, and in `\Set` the first vertical will expand. E. g.,

$$\begin{aligned} \text{\Braket{ \phi | \frac{\partial^2}{\partial t^2} | \psi }} & \left\langle \phi \left| \frac{\partial^2}{\partial t^2} \right| \psi \right\rangle \\ \text{\Set{ x \in \mathbf{R}^2 | 0 < |x| < 5 }} & \left\{ x \in \mathbf{R}^2 \left| 0 < |x| < 5 \right. \right\} \end{aligned}$$

Likewise, you may make an expandable double-bar using either the “`\|`” command or its local alias “`||`”.

NOT defined is “`\ketbra`” (for projection operators) because I prefer `\ket{ }` `\bra{ }`.

Because each definition is so small, it makes no sense to have a complicated generic version for many bracket styles. Instead, you can just copy the definitions and change `\langle` or `\rangle`, to what you like.