pst-pulley

Plotting different pulleys; v.0.02

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Package author(s):
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pst-pulley loads by default the following packages: `pst-plot`, `pstricks-add`, `pst-eucl`, `pst-xkey`, and, of course `pstricks`. All should be already part of your local \TeX{} installation. If not, or in case of having older versions, go to \url{http://www.CTAN.org/} and load the latest version.

Thanks to:
Manuel Luque
Jürgen Gilg
Herbert Voss
1 Parameters

With this package it is possible to draw different pulleys. There are four parameters: $N=1\ldots6$ gives the number of wheels of the pulley. $M=\ldots$ gives the mass of the weight in kg. The parameter $h=\ldots$ gives the height of the weight in cm from the bottom. To align the down-part of the pulley, there is the parameter $Dx=\ldots$ With positive values the down-part goes to the left. The mass of the rolls are negligible, or you have to add it to the mass of the weight. The rope is not stiff and inextensible. The force of the weight, the force in each rope and the distance to pull will calculated from the macro and shown. For the gravitation-constant we have $g = 10\, m/s^2$.

\pspulleys[Options]

\pspulleys[N=4,M=30,h=15,Dx=0.1]
2 Examples

\pspulleys[pulleyGrid,N=1,M=60,h=35]
\[ F_Z = 300 \text{ N} \]
\[ F_S = 300 \text{ N} \]
\[ F_G = 600 \text{ N} \]
\[ \Delta s = 60.0 \text{ cm} \]
\[ \Delta h = 30 \text{ cm} \]
\textbf{Examples}

\begin{align*}
F_Z &= 200 \text{ N} \\
F_S &= 200 \text{ N} \\
F_G &= 600 \text{ N} \\
\Delta s &= 75.0 \text{ cm} \\
\Delta h &= 25 \text{ cm}
\end{align*}

\texttt{\textbackslash pspulleys[N=3,M=60,h=25]}
\( F_Z = 150 \text{ N} \)

\( F_S = 150 \text{ N} \)

\( F_G = 600 \text{ N} \)

\( \Delta s = 80.0 \text{ cm} \)

\( \Delta h = 20 \text{ cm} \)

\( \text{pspulleys}[N=4,M=60,h=20] \)
\textbf{Examples}

\begin{align*}
F_S &= 120 \text{ N} \\
F_G &= 600 \text{ N} \\
\Delta s &= 75.0 \text{ cm} \\
\Delta h &= 15 \text{ cm}
\end{align*}

\text{\textbackslash pslist\{N=5,M=60,h=15\}}
\textit{Examples}

\[ F_S = 100 \text{ N} \]
\[ F_G = 600 \text{ N} \]
\[ \Delta s = 60,0 \text{ cm} \]
\[ \Delta h = 10 \text{ cm} \]
### 3 List of all optional arguments for \texttt{pst-pulleys}

<table>
<thead>
<tr>
<th>Key</th>
<th>Type</th>
<th>Default</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>M</td>
<td>ordinary</td>
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</tr>
<tr>
<td>h</td>
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<tr>
<td>Dx</td>
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<td>[none]</td>
</tr>
</tbody>
</table>

\texttt{pst-pulley-doc}