ROD AND LAYER MATERIALS ALTERNATIVES

tkLayout developers meeting

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Actual

	Unit=g/m (linear dens.)	Unit=mm (thickness)	Unit=g (weight)
Module Service=false	Module $\times$ *moduleLength* No accumulation No conversion Scaling possible	Module $\times$ *moduleSurface* $\times$ ρ (sensor surface) No accumulation No conversion Scaling possible	Module $\times 1$ No accumulation No conversion Scaling possible
Module in ring R of N Service=true	Following sections $S_{R+1} \ldots S_i \ldots S_N$ $\times$ $numModules_R$ $\times$ $supportLength_i$ Accumulation Conversion(1:1 by default, with warning) Scaling possible	Following sections $S_{R+1} \ldots S_i \ldots S_N$ $\times$ $numModules_R$ $\times$ $supportSurface_i$ $\times$ ρ Accumulation Conversion(1:1 by default, with warning) Scaling possible Deprecated warning	N/A
Rod (barrel, endcap) Service=false	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $numModules_1$ $\times$ $supportLength_i$ No accumulation No conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportSurface_i$ $\times$ ρ No accumulation No conversion Scaling not possible	N/A
Rod (barrel, endcap) Service=true	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $numModules_1$ $\times$ $supportLength_i$ No accumulation Conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportSurface_i$ $\times$ ρ No accumulation Conversion Scaling not possible Deprecated warning	N/A

	Modules	Cylind. service sections	disk service section
Length	Local y	Δz	Δr
Surface	Sensor surface	$2\pi r \Delta z$	$\pi\left({r_2}^2 - {r_1}^2\right)$

Alternative 1

	Unit=g/m (linear dens.)	Unit=mm (thickness)	Unit=g (weight)
Module Service=false	Module $\times$ *moduleLength* No accumulation No conversion Scaling possible	Module $\times$ *moduleSurface* $\times$ ρ (sensor surface) No accumulation No conversion Scaling possible	Module $\times 1$ No accumulation No conversion Scaling possible
Module in ring R of N Service=true	Following sections $S_{R+1} \ldots S_i \ldots S_N$ $\times$ $numModules_R$ $\times$ $supportLength_i$ Accumulation Conversion(1:1 by default, with warning) Scaling possible	Following sections $S_{R+1} \ldots S_i \ldots S_N$ $\times$ $numModules_R$ $\times$ $supportSurface_i$ $\times$ ρ Accumulation Conversion(1:1 by default, with warning) Scaling possible Deprecated warning	N/A
Rod (barrel, endcap) Service=false	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $numModules_1$ $\times$ $supportLength_i$ No accumulation No conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportSurface_i$ $\times$ ρ No accumulation No conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $numModules_1$ $\times$ $\frac{supportLength_i}{\sum supportLength}$ No accumulation No conversion Scaling not possible
Rod (barrel, endcap) Service=true	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $numModules_1$ $\times$ $supportLength_i$ No accumulation Conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportSurface_i$ $\times$ ρ No accumulation Conversion Scaling not possible Deprecated warning	N/A

	Modules	Cylind. service sections	disk service section
Length	Local y	Δz	Δr
Surface	Sensor surface	$2\pi r \Delta z$	$\pi\left({r_2}^2 - {r_1}^2\right)$

Alternative 2

	Unit=g/m (linear dens.)	Unit=mm (thickness)	Unit=g (weight)
Module Service=false	Module $\times$ *moduleLength* No accumulation No conversion Scaling possible	Module $\times$ *moduleSurface* $\times$ ρ (sensor surface) No accumulation No conversion Scaling possible	Module $\times 1$ No accumulation No conversion Scaling possible
Module in ring R of N Service=true	Following sections $S_{R+1} \ldots S_i \ldots S_N$ $\times$ $numModules_R$ $\times$ $supportLength_i$ Accumulation Conversion(1:1 by default, with warning) Scaling possible	Following sections $S_{R+1} \ldots S_i \ldots S_N$ $\times$ $numModules_R$ $\times$ $supportSurface_i$ $\times$ ρ Accumulation Conversion(1:1 by default, with warning) Scaling possible Deprecated warning	N/A
Rod (barrel, endcap) Service=false	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $numModules_1$ $\times$ $supportLength_i$ No accumulation No conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportSurface_i$ $\times$ ρ No accumulation No conversion Scaling not possible	N/A
Rod Service=true	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $numModules_1$ $\times$ $supportLength_i$ No accumulation Conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportSurface_i$ $\times$ ρ No accumulation Conversion Scaling not possible Deprecated warning	N/A
Layer/Disk Service=false	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportLength_i$ No accumulation No conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportSurface_i$ $\times$ ρ No accumulation No conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times \frac{supportLength_i}{\sum supportLength}$ No accumulation No conversion Scaling not possible
Layer/Disk Service=true	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportLength_i$ No accumulation Conversion Scaling not possible	All sections $S_1 \ldots S_i \ldots S_N$ $\times$ $supportSurface_i$ $\times$ ρ No accumulation Conversion Scaling not possible	N/A

	Modules	Cylind. service sections	disk service section
Length	Local y	Δz	Δr
Surface	Sensor surface	$2\pi r \Delta z$	$\pi\left({r_2}^2 - {r_1}^2\right)$