Subject: Re: railML 2.3 infrastructure extension proposal tunnel resistance factor
Posted by christian.rahmig on Mon, 02 Jan 2017 16:30:48 GMT
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Dear Torben,

Am 20.12.2016 um 18:32 schrieb Torben Brand:
> [...]
> tunnel
> In most runtime calculation software the tunnel resistance
> factor is calculated. We suggest to indicate a simple tunnel
> resistance factor (A) for the simple additional tunnel
> resistance formula: F(tun)=AxV^2 [V]=km/h
> The element <tunnel> is extended with the new attribute
> @NO:tunnelResistancefactorA [datatype integer].

railML.org philosophy so far was to primarily model explicit
infrastructure parameters and to derive other parameters where possible.
The tunnel resistance factor is a secondary parameter that is influenced by:
* the ratio of train cross section and tunnel cross section
* the length of the tunnel
* the roughness of the tunnel wall

The tunnel wall roughness is given by the attribute <tunnel>@kind, where
the wall material (natural stone, quarrystone, brick, concrete) can be
specified. The attribute <tunnel>@length defines the length of the
tunnel. The tunnel's cross section area is given with the parameter
<tunnel>@crossSection. Taking into consideration that the train's cross
section area can be derived from the clearance gauge profile, all
parameters that are required for calculating the tunnel resistance
factor are available.

However, calculating a tunnel resistance factor remains complex. So, I
see two options for improvement: Either, the formula for calculating the
tunnel resistance factor is provided in the railML wiki (see [1]) or an
attribute for a calculated tunnel resistance factor is introduced. The
latter solution allows for applying different formulas for calculating
the tunnel resistance factor while the first solution would
unambiguously define the way to calculate the factor.

Dear community, what are your preferences?

[1] http://wiki.railml.org/index.php?title=IS:tunnel

Best regards
Christian

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