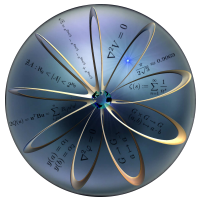

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## weak homotopy double groupoid

| | |
|---|---|
| Canonical name | WeakHomotopyDoubleGroupoid |
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| Synonym | homotopy double groupoid |
| Related topic | WeakHomotopyAdditionLemma |
| Related topic | OmegaSpectrum |
| Related topic | FEquivalenceInCategory |
| Defines | higher dimensional weak homotopy |

**Definition 0.1.** *a weak homotopy double groupoid (WHDG)* of a *compactly–generated space* $X_{cg}$, (weak Hausdorff space) is defined through a construction method similar to that developed by R. Brown (ref. [**?**]) for the *homotopy double groupoid of a Hausdorff space*. The key changes here involve replacing the regular homotopy equivalence relation from the cited ref. with the *weak homotopy equivalence relation* in the definition of the fundamental groupoid, as well as replacing the Hausdorff space by the compactly-generated space $X_{cg}$. Therefore, the weak homotopy data for the *weak homotopy double groupoid* of $X_{cg}$, $\boldsymbol{\rho}^{\square}(X_{cg})$, will now be:

$$(\boldsymbol{\rho}_2^{\square}(X), \boldsymbol{\rho}_1^{\square}(X), \partial_1^-, \partial_1^+, +_1, \varepsilon_1), \boldsymbol{\rho}_2^{\square}(X), \boldsymbol{\rho}_1^{\square}(X), \partial_2^-, \partial_2^+, +_2, \varepsilon_2)$$
$$(\boldsymbol{\rho}_1^{\square}(X), X, \partial^-, \partial^+, +, \varepsilon).$$

# References


[1] R. Brown, K.A. Hardie, K.H. Kamps and T. Porter, A homotopy double groupoid of a Hausdorff space, *Theory and Applications of Categories* **10**,(2002): 71-93.