Making LHCb decay files and simulations easily accessible.

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This Barbie is making simulations accessible.

The LHCb Simulation Wizard

The LHCb Simulation Wizard is a web tool that simplifies the process of finding or producing decay files and simulation samples linked to them. The app is directed both at LHCb physicists and users of LHCb Open Data. The full workflow of the web tool can be seen in Figure 1. Whilst the decay files and LHCb software are currently public, the learning curve to use them is very steep: the aim of the Simulation Wizard is to make this learning curve a bit smaller via a user-friendly web tool. It also produces an annotated version of the decay files, which is helps users to understand the content of the files without needing prior expertise.
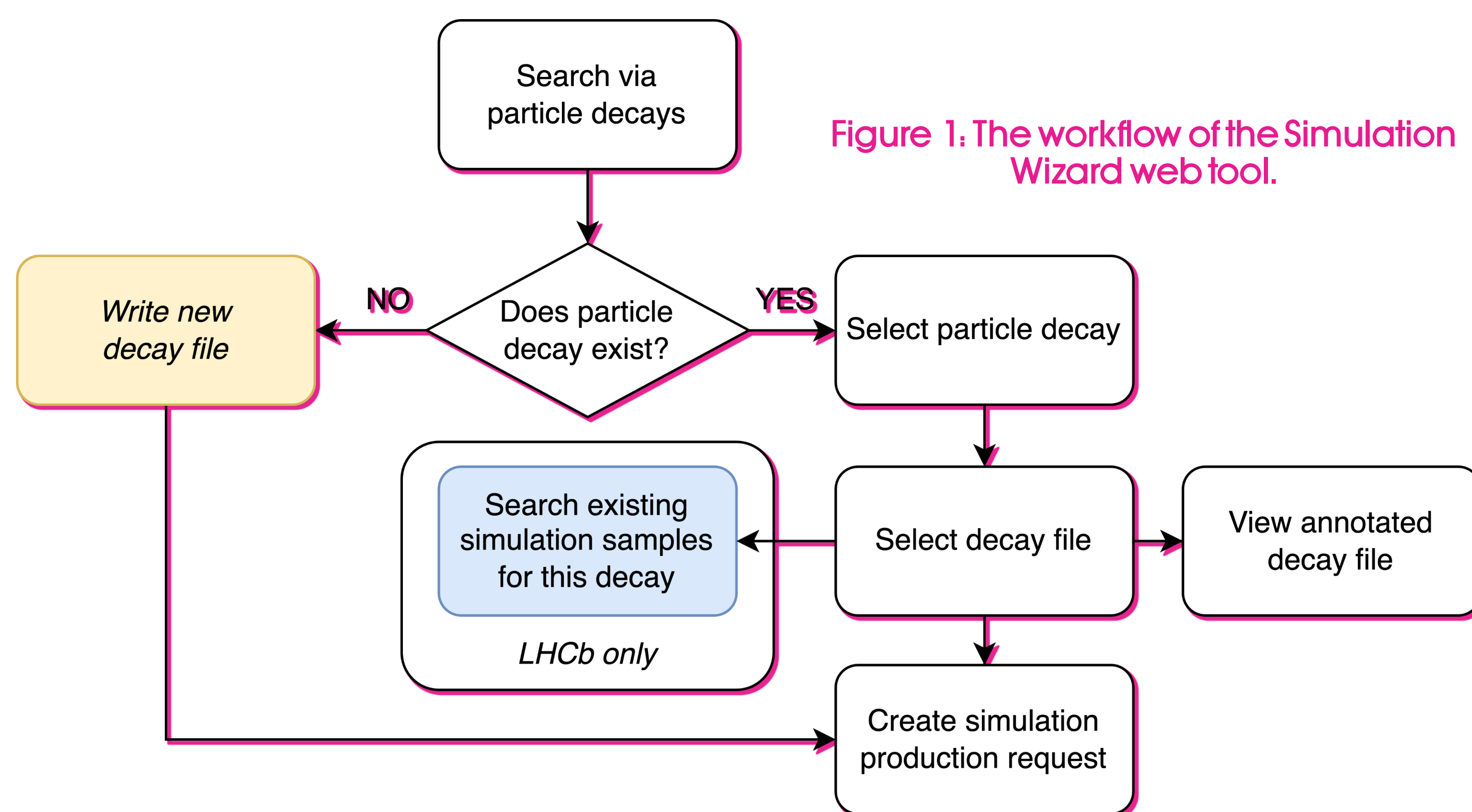

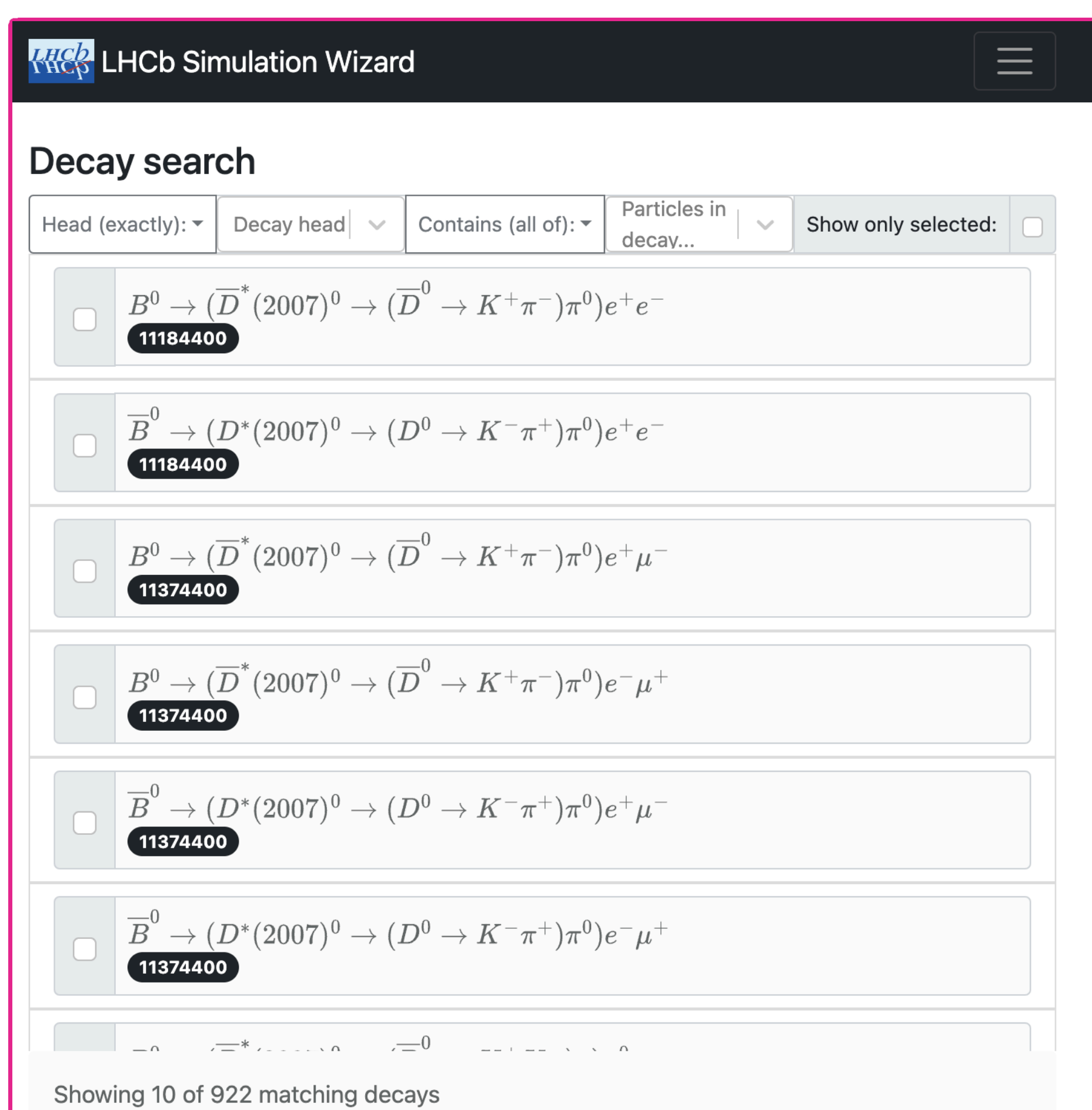Figure 1: The workflow of the Simulation Wizard web tool.

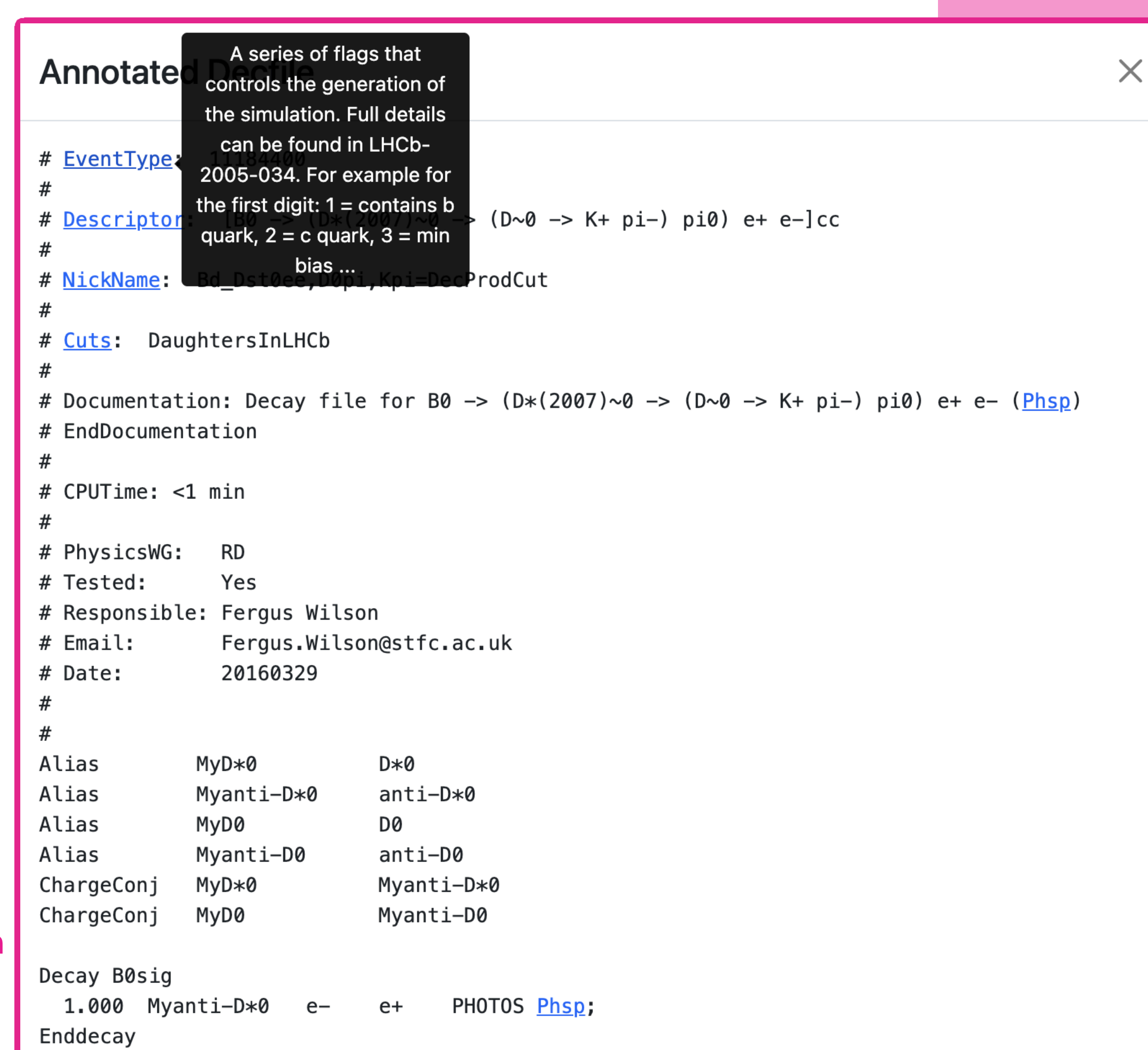Figure 2: A screenshot of the main decay search of the Simulation Wizard.

Figure 3: An example of the annotation of the decay files.

Open Data at CERN

Open data has been a core value at CERN from the start, when CERN's founding convention stated that all its results were to be published and made generally available. Today, this philosophy continues, with CERN's open data policy aiming to make all CERN research fully accessible, inclusive, democratic and transparent.

LHCb Wizards

Whilst there is a lot of LHCb data available at opendata.cern.ch, this data is not in an easily accessible format, and trying to search for specific groups of data can be laborious.

In order to overcome this issue, LHCb has made two wizards that allow researchers a more intuitive interface with which to find data, and also get the chance to request or work with LHCb software.

The Simulation Wizard allows users to search through decay files (publicly available) and simulation data (only for LHCb users), and allows them to create a simulation production request.

The Simulation Wizard is complementary to the NTupleWizard, which allows users to request the production of ntuples from LHCb data samples, simplifying an otherwise cumbersome process that requires large-scale computing resources and expertise.

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