4.3 Event Types

Alternative Splicing (AS) Event

Definition: an AS event is a variation of (splice) sites between common sites, or the respective transcript ends. An AS event contains at least one alternative splice site, i.e. a splice site that is transcribed by multiple transcripts but not used by all of them.
Default settings for AStalavisat process exclusively internal AS events (ASI). In order to activate other event types, use the command flag --ev, e.g. the command line

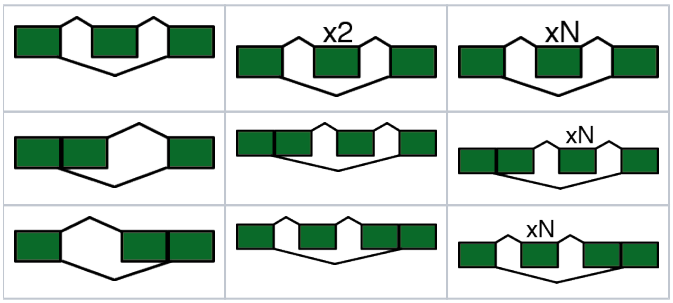
```
.... -ev [ASI,ASE]...
```

will retrieve the internal and external AS events from the annotation.

AS Subtype: AS Internal (ASI) Event

Definition: an internal AS event is flanked to both sides (i.e., at its 5'- and 3'-end) by common sites between the compared transcripts, and does therefore not involve alterntative transcription start

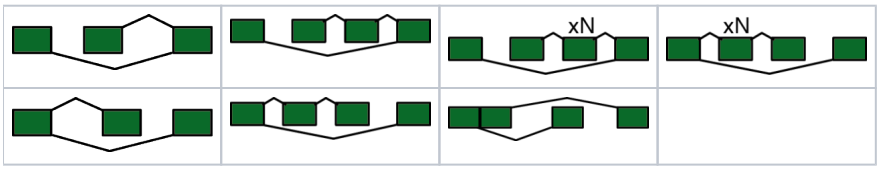
Example: the well known traditional patterns of simple AS events are all internal, but there are also more complex patterns of internal AS events.



AS Subtype: AS External (ASE) Event

Definition: an external AS event involves beside alternative splice site(s) also variability in the 5'- and/or 3'-end of the transcript

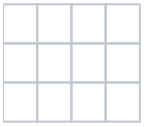
Example: the most frequently observed external AS event patterns are



Additional Splicing (DSP) Event

Definition: an additional splicing event is not an AS event, because it does not contain a single alternative splice site–a splice site present in multiple transcripts but not used in all. However, an additional splicing event shows splice sites used by some and not by other transcripts, however, these splice sites do not fall within the common transcribed area.

Example: commonly observed DSP event patterns



Variable Sites (VST) Event

Definition: a variable site event does not contain any variable splice site, alternative or additional. However, it describes variations in the 5'-start and/or 3'-end of transcripts that overlap.

Example: VST events are picking up any variation between transcript structures, as for instance the following patterns