SUMMARY OF THE INVENTION

[0004a] In one aspect, there is provided a method for identifying and extracting fault blocks in one or more bodies representing a geological structure, which comprises: a) loading a plurality of bodies, wherein each body includes a side patch, a center of mass and a volume; b) assigning a fault flag to each respective body, wherein each fault flag is designated as empty; c) selecting a fault flag that is assigned to one of the plurality of bodies with a side patch that is a fault; d) converting the selected fault flag from empty to a fault representing a fault-flagged body; e) selecting each one of the plurality of bodies that is below the fault-flagged body; f) identifying each body selected below the fault-flagged body that is a continuation of the fault-flagged body using a computer processor; g) repeating steps c) – f) for each fault flag assigned to one of the plurality of bodies with a side patch that is a fault; and h) separating each fault-flagged body and each body identified as a respective continuation of the fault-flagged body from the plurality of bodies into a group of bodies.

[0004b] In another aspect, there is provided a non-transitory program carrier device tangibly carrying computer-executable instructions for identifying and extracting fault blocks in one or more bodies representing a geological structure, the instructions being executable to implement: a) loading a plurality of bodies, wherein each body includes a side patch, a center of mass and a volume; b) assigning a fault flag to each respective body, wherein each fault flag is designated as empty; c) selecting a fault flag that is assigned to one of the plurality of bodies with a side patch that is a fault; d) converting the selected fault flag from empty to a fault representing a fault-flagged body; e) selecting each one of the plurality of bodies that is below the fault-flagged body; f) identifying each body selected below the fault-flagged body that is a continuation of the fault-flagged body; g) repeating steps c) – f) for each fault flag assigned to one of the plurality of bodies with a side patch that is a fault; and h) separating each fault-flagged body and each body identified as a respective continuation of the fault-flagged body from the plurality of bodies into a group of bodies.

[0004c] In yet another aspect, there is provided a non-transitory program carrier device tangibly carrying computer-executable instructions for identifying and extracting fault blocks in one or more bodies representing a geological structure, the instructions being executable to implement: a) loading a plurality of bodies, wherein each body includes a side patch; b) assigning a fault flag to each respective body, wherein each fault flag is designated as empty; c) selecting a fault flag that is assigned to one of the plurality of bodies with a side patch that is a fault; d) converting the selected fault flag from empty to a fault representing a fault-flagged body; e) selecting each one of the plurality of bodies that is below the fault-flagged body; f) identifying each body selected below the fault-flagged body that is a continuation of the fault-flagged body; g) repeating steps c) – f) for each fault flag assigned to one of the plurality of bodies with a side patch that is a fault; and h) separating each fault-flagged body and each body identified as a respective continuation of the fault-flagged body from the plurality of bodies into a group of bodies, wherein each body in each separated group of bodies represents at least a portion of a fault block.