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Experimental study on energy absorption of bionic tubes inspired by bamboo structures under axial crushing

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Highlights

- Bionic design was introduced to increase the axial energy absorption for thin-walled tube inspired by bamboo structure.
- The three types of bionic specimens were prepared by 3D printed and machined.
- Bionic specimens under axial impact were tested by the drop weight test.
- Eight of fourteen bionic specimens can increase the SEA compare with circular tube
- Bionic design provided a new guideline for the structural design of thin-walled tube.

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