

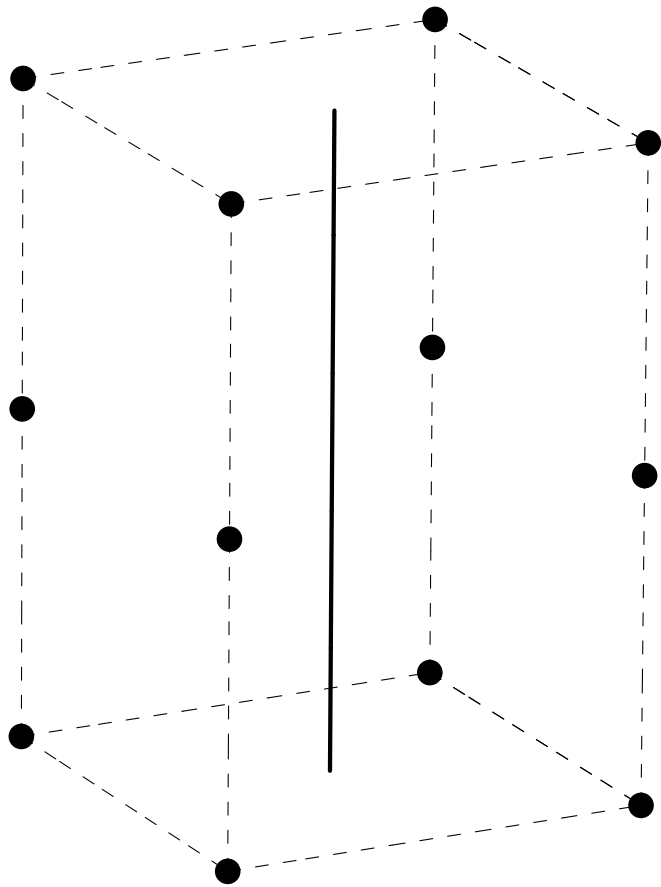
```

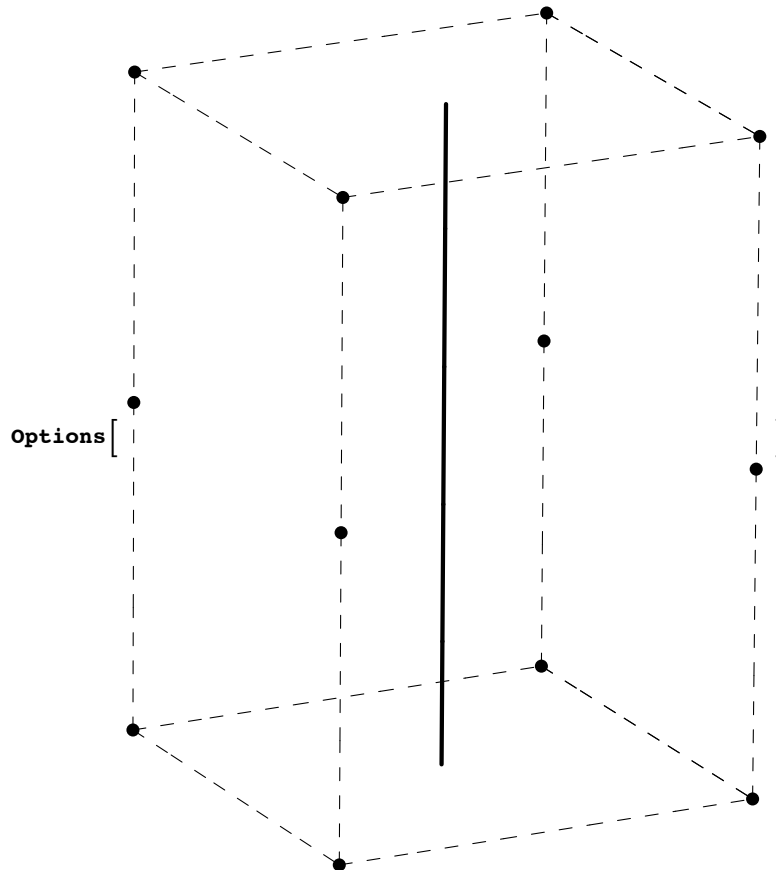
dash = {0.02, 0.023};
H = 1.5; (* height of graph; for to scale, set H=2Pi *)
box = {
  {Dashing[dash], Line[{{0, 0, 0}, {0, 0, H}}]},
  {Dashing[dash], Line[{{1, 0, 0}, {1, 0, H}}]},
  {Dashing[dash], Line[{{1, 1, 0}, {1, 1, H}}]},
  {Dashing[dash], Line[{{0, 1, 0}, {0, 1, H}}]},
  (* bottom *)
  {Dashing[dash], Line[{{0, 0, 0}, {1, 0, 0}}]},
  {Dashing[dash], Line[{{0, 0, 0}, {0, 1, 0}}]},
  {Dashing[dash], Line[{{1, 0, 0}, {1, 1, 0}}]},
  {Dashing[dash], Line[{{0, 1, 0}, {1, 1, 0}}]},
  {Dashing[dash], Line[{{0, 1, 0}, {1, 1, 0}}]},
  (* top *)
  {Dashing[dash], Line[{{0, 0, H}, {1, 0, H}}]},
  {Dashing[dash], Line[{{0, 0, H}, {0, 1, H}}]},
  {Dashing[dash], Line[{{1, 0, H}, {1, 1, H}}]},
  {Dashing[dash], Line[{{0, 1, H}, {1, 1, H}}]},
  {Dashing[dash], Line[{{0, 1, H}, {1, 1, H}}]}
};

ptsSize = 12;
SingularSetTE =
{
  {Thick, Line[{{1/2, 1/2, 0}, {1/2, 1/2, H}}]},
  {AbsolutePointSize[ptsSize], Point[{{0, 0, 0}}]},
  {AbsolutePointSize[ptsSize], Point[{{0, 1, 0}}]},
  {AbsolutePointSize[ptsSize], Point[{{1, 1, 0}}]},
  {AbsolutePointSize[ptsSize], Point[{{1, 0, 0}}]},
  {AbsolutePointSize[ptsSize], Point[{{0, 0, H/2}}]},
  {AbsolutePointSize[ptsSize], Point[{{0, 1, H/2}}]},
  {AbsolutePointSize[ptsSize], Point[{{1, 1, H/2}}]},
  {AbsolutePointSize[ptsSize], Point[{{1, 0, H/2}}]},
  {AbsolutePointSize[ptsSize], Point[{{0, 0, H}}]},
  {AbsolutePointSize[ptsSize], Point[{{0, 1, H}}]},
  {AbsolutePointSize[ptsSize], Point[{{1, 1, H}}]},
  {AbsolutePointSize[ptsSize], Point[{{1, 0, H}}]}
};

```

```
gTE = Graphics3D[{box, SingularSetTE}, Boxed → False,  
  ImageSize → {306.2921514890229`, 415.85980538787715`},  
  ViewPoint → {28.649631508956674`, -14.636805932332045`, 10.486301850521295`},  
  ViewVertical → {0.413031244919874`, -0.22017905182482353`, 0.9500704946610741`}]
```

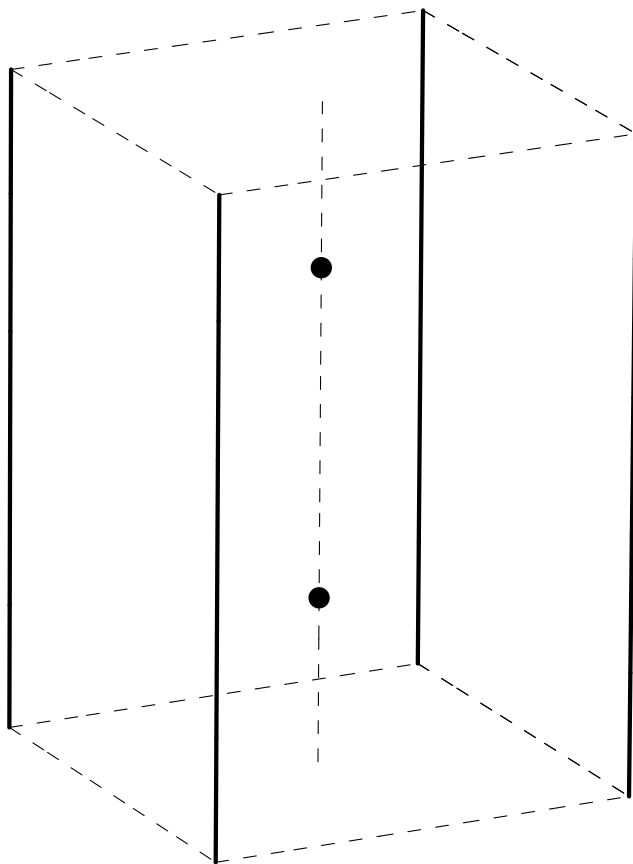




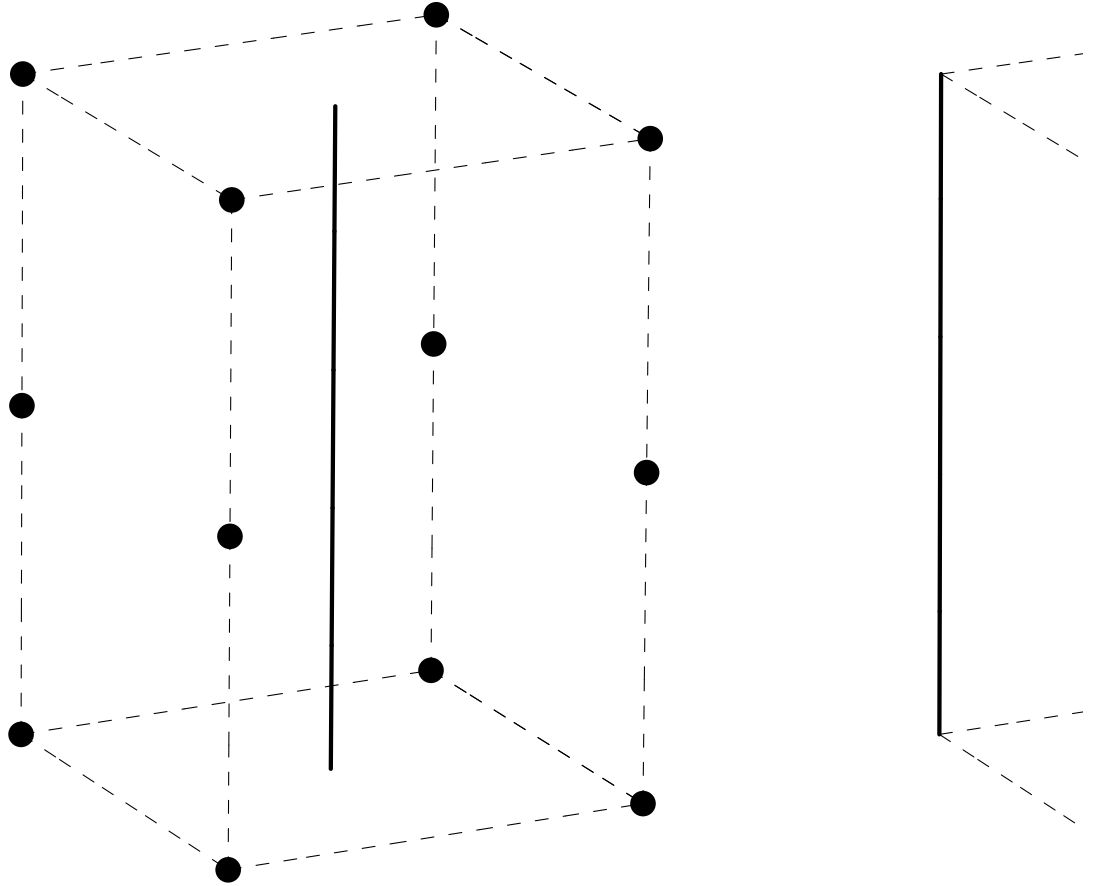
```
{AutomaticImageSize → True, Boxed → False, ImageSize → {306.292, 415.86},
ViewPoint → {28.6496, -14.6368, 10.4863}, ViewVertical → {0.413031, -0.220179, 0.95007}}
```

```
ptsSize = 10;
SingularSetTM =
{
  {Thick, Line[{{0, 0, 0}, {0, 0, H}}]},
  {Thick, Line[{{0, 1, 0}, {0, 1, H}}]},
  {Thick, Line[{{1, 0, 0}, {1, 0, H}}]},
  {Thick, Line[{{1, 1, 0}, {1, 1, H}}]},
  {Dashing[dash], Line[{{1/2, 1/2, 0}, {1/2, 1/2, H}}]},
  {AbsolutePointSize[ptsSize], Point[{{1/2, 1/2, H/4}}]},
  {AbsolutePointSize[ptsSize], Point[{{1/2, 1/2, 3/4 H}}]}
};
```

```
gTM = Graphics3D[{box, SingularSetTM}, Boxed → False,  
  ImageSize → {306.2921514890229`, 415.85980538787715`},  
  ViewPoint → {28.649631508956674`, -14.636805932332045`, 10.486301850521295`},  
  ViewVertical → {0.413031244919874`, -0.22017905182482353`, 0.9500704946610741`}]
```



```
both = Show[GraphicsArray[{gTE, gTM}, GraphicsSpacing -> 0.6]]
```



```
Export["~/writing/WIP/contact/singularSets.pdf", both]
```

```
~/writing/WIP/contact/singularSets.pdf
```