

## Passing Titan – Programme Notes

During the nineteen-year space exploration mission to find out more about Saturn and its moons, the NASA Cassini-Huygens project spacecraft approached Titan on Christmas Day 2004, six years after the initial launch. The Huygens lander separated itself from Cassini, entered Titan's atmosphere and landed on the planet. It was able to send valuable physical and sonar data while Cassini cruised past Titan to receive the information and to pass it to scientists on earth. This part of the mission excited a good deal of media interest.

Once the data, which showed clear evidence of large lakes of liquid hydrocarbon on Titan, had been received, Huygens was left on Titan and Cassini continued on its way, exploring Saturn and many other planets and moons. The mission ended in 2017.

The piece of music that opens the second half of this concert is called 'Passing Titan'. It aims to provide a snapshot of the part of the mission that concerned Titan. The main melody is taken from the piano piece, 'Les Adieux', which you heard in the first half of the concert.

You will hear the approach of the Cassini-Huygens spacecraft towards Titan and the detaching of Huygens from Cassini. Amid some increased sonar activity, you will hear the entry of Huygen into Titan's atmosphere and its successful landing on the planet. Data is passed to Cassini and we hear the pulse of the universe, traditionally known as the Music of the Spheres. Finally, Cassini leaves Titan, its work done. Huygen is left to its fate.

Passing Titan is a piece of *musique concrète*, which is to say a piece of music created by synthesisers and digital signal processing. It is considered finished and unchangeable. Unlike conventional music, therefore, it needs no performer, no interpreter.