## Script for ESOcast Light 219: Star Dance Around Supermassive Black Hole

| ESOcast Light 219   |  |
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| [Visual starts]   |  |
| New ESOcast intro   | New ESOcast introduction   |
| Title: Star Dance Around Supermassive Black Hole  |  |
| 1.ESO's Very Large Telescope has observed a star dancing around the supermassive black hole at the centre of the Milky Way.                   |  |
| 2. The observations have revealed, for the first time, that the star's orbit is shaped like a rosette and not like an ellipse.                |  |
| 3. This precessing movement is predicted by Einstein's theory of general relativity   |  |
| but had <b>never before</b> been observed for a star around a supermassive black hole.  |  |
| 4. The star, S2, is <b>one of the closest</b> ever found <b>around the massive giant</b> , but it still takes 16 years to complete its orbit. |  |
| 5. To unravel the intricacies of its orbit, astronomers had to follow S2 for nearly 30 years, taking ever more precise measurements.          |  |
| 00:00<br>[Outro]  | Produced by ESO, the European Southern<br>Observatory.<br>Reaching new heights in Astronomy. |