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**Algorithm 2**   **GetMidPoint** (evolving-density trajectory record  $rec_1$ , next record  $rec_2$ )

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- 1:  $rec \leftarrow$  new record  $\triangleright$  snapshot point between  $rec_1$  and  $rec_2$
  - 2:  $t_1 \leftarrow$  time of  $rec_1$
  - 3:  $t_2 \leftarrow$  time of  $rec_2$
  - 4:  $f \leftarrow \frac{t_2 - t_1}{t_2 - t_1}$
  - 5:  $rec.\mu.x \leftarrow rec_1.\mu.x + f \times (rec_2.\mu.x - rec_1.\mu.x)$
  - 6:  $rec.\mu.y \leftarrow rec_1.\mu.y + f \times (rec_2.\mu.y - rec_1.\mu.y)$
  - 7:  $rec.\sigma \leftarrow rec_1.\sigma + f \times (rec_2.\sigma - rec_1.\sigma)$
  - 8: **return**  $rec$
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