1138-46-90    **Longxiu Huang\*** (`longxiu.huang@vanderbilt.edu`), Nashville, TN 37240, **Akram Aldroubi** (`aldroubi@math.vanderbilt.edu`), Nashville, TN 37240, and **Armenak Petrosyan** (`petrosyana@ornl.gov`), Oak Ridge, TN 37830. *Frames induced by the action of continuous powers of an operator.*

The dynamical sampling problem is to recover an unknown signal from spatio-temporal samples of an evolving process for which the signal is the initial state. In the present study, we assume the samples are taken in continuous time at fixed locations and find conditions on $A$, $\mathcal{G}$ and $L$ that make the iterated system $\{A^t g : g \in \mathcal{G}, t \in [0, L]\}$ complete, Bessel, or a frame for $\mathcal{H}$. Additionally, we also study the connection between a semi-continuous frame $\{A^t g : g \in \mathcal{G}, t \in [0, L]\}$ and its discretization $\{A^{t_i} g\}_{g \in \mathcal{G}, i \in I}$ with $|I| < \infty$, where the semi-continuous frame is generated by the continuous action of the operator $A \in B(\mathcal{H})$, and the discrete system is obtained from the time discretization of this frame. (Received February 06, 2018)