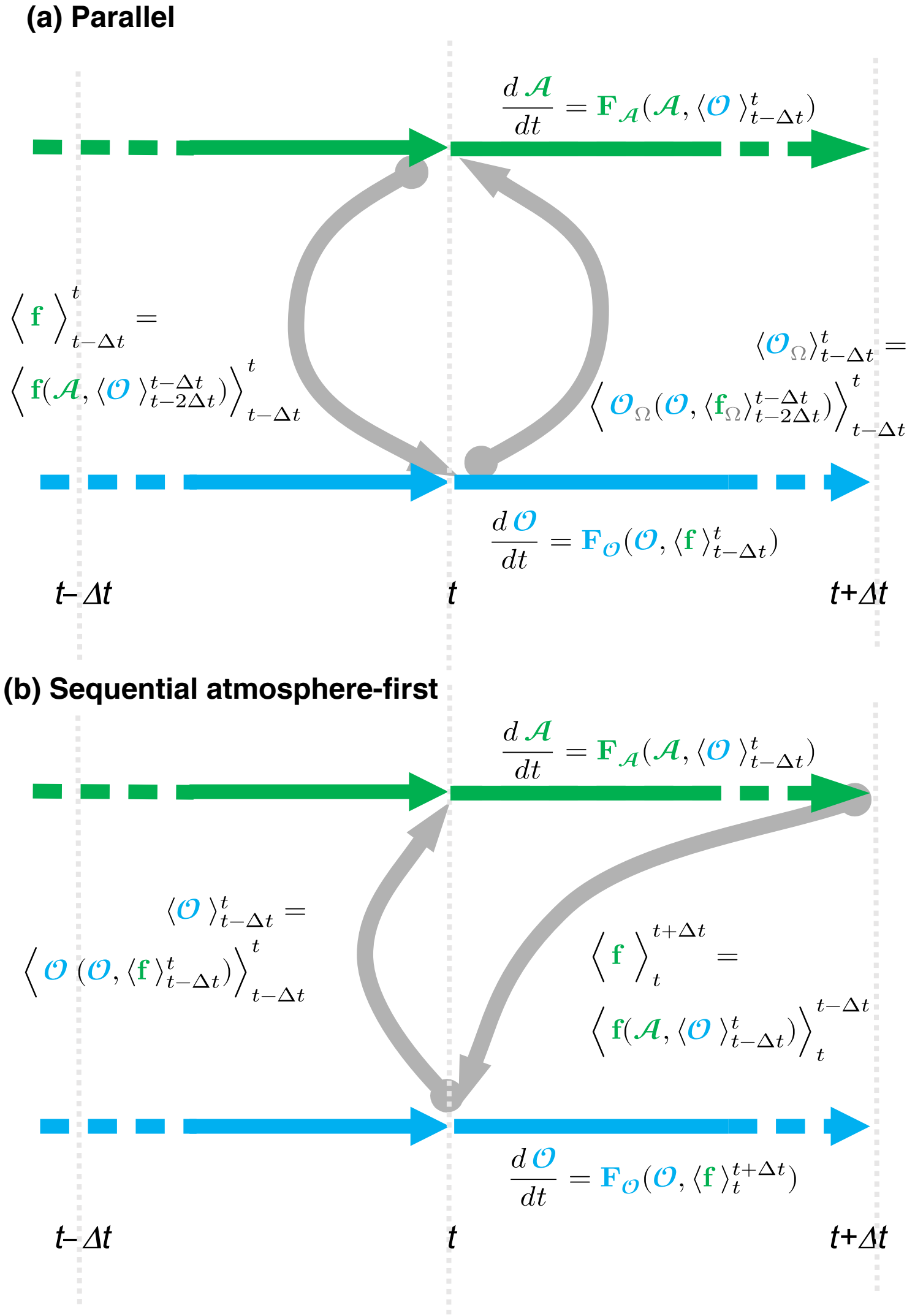
(a) Parallel
$\frac{d\mathcal{A}}{dt} = \mathbf{F}_{\mathcal{A}}(\mathcal{A}, \langle \mathcal{O} \rangle_{t-\Delta t}^{t})$
$\left\langle \mathbf{f} \right\rangle_{t-\Delta t}^{t} =$
$\left\langle \mathbf{f}(\mathcal{A}, \langle \mathcal{O} \rangle_{t-2\Delta t}^{t-\Delta t}) \right\rangle_{t-\Delta t}^{t}$
$\langle \mathcal{O}_{\Omega} \rangle_{t-\Delta t}^{t} =$
$\left\langle \mathcal{O}_{\Omega}(\mathcal{O}, \langle \mathbf{f}_{\Omega} \rangle_{t-2\Delta t}^{t-\Delta t}) \right\rangle_{t-\Delta t}^{t}$
$\frac{d\mathcal{O}}{dt} = \mathbf{F}_{\mathcal{O}}(\mathcal{O}, \langle \mathbf{f} \rangle_{t-\Delta t}^{t})$
t– Δt
t
t+Δt
(b) Sequential atmosphere-first
$\frac{d\mathcal{A}}{dt} = \mathbf{F}_{\mathcal{A}}(\mathcal{A}, \langle \mathcal{O} \rangle_{t-\Delta t}^{t})$
$\langle \mathcal{O} \rangle_{t-\Delta t}^{t} =$
$\left\langle \mathcal{O}(\mathcal{O}, \langle \mathbf{f} \rangle_{t-\Delta t}^{t}) \right\rangle_{t-\Delta t}^{t}$
$\left\langle \mathbf{f} \right\rangle_{t}^{t+\Delta t} =$
$\left\langle \mathbf{f}(\mathcal{A}, \langle \mathcal{O} \rangle_{t-\Delta t}^{t}) \right\rangle_{t}^{t-\Delta t}$
$\frac{d\mathcal{O}}{dt} = \mathbf{F}_{\mathcal{O}}(\mathcal{O}, \langle \mathbf{f} \rangle_{t}^{t+\Delta t})$
t– Δt
t
t+Δt