1. **"Cooperative manipulation and transportation with aerial robots", Michael et al. (2010)**

Cooperative manipulation and transportation with UAVs. Cable-suspended system with 3 agents and centralized control. 3D manipulation direct problem: given agent poses, find the payload pose satisfying system kinematics and equilibrium equation. Direct problem formulated as a non-convex optimization problem (find the lowest feasible payload height, given bounds on cable tension and payload rigidity). PID control strategy with feedforward compensation, potential field controller for collision avoidance.

2. **"Geometric Control of Multiple Quadrotor UAVs Transporting a Cable-Suspended Rigid Body", Lee (2014)**

Cooperative transportation with UAVs. Cable-suspended payload, centralized control. PD nonlinear control. Derivation of control inputs for simplified dynamical system (i.e. neglect individual quadrotor pose dynamics, assume each agent's thrust can be chosen arbitrarily) using geometrical analysis; proof of exponential stability. Derivation of control system for full dynamical system and geometrical considerations; claim of exponential stability. No explicit optimal control techniques.

3. **"Dynamic Collaboration without Communication: Vision-Based Cable-Suspended Load Transport with Two Quadrotors", Gassner et al. (2017)**

Cooperative transportation with UAVs. Cable-suspended payload with 2 agents, decentralized control based on visual state estimation. Leader control law uses LQR scheme; leader dynamics are linearized about the desired operating point, cost function is a weighted sum of quadratic terms in the state deviations and input deviations from the linearization point. Follower control law uses LQR scheme for position control in the plane orthogonal to the transport direction, and PD control in the transport direction.

4. **"Multi-objective control for cooperative payload transport with rotorcraft UAVs", Gímenez et al. (2018)**

Cooperative transportation with UAVs. Cable-suspended payload with 2 agents, centralized control. Kinematic formation controller derived analytically using null space theory, implemented with a cascaded PID controller; potential field used for obstacle avoidance. No explicit optimal control techniques.

5. **"An Integrated Framework for Cooperative Aerial Manipulators in Unknown Environments", Lee et al. (2018)**

Cooperative manipulation with UAVs. Payload rigidly grasped by 2 agents, leader-follower structure, distributed control. Online estimation of payload mass and inertial properties; analytical derivation of control law. Path planning using "dynamic motion primitives"; vision point cloud data and potential field used for collision avoidance. No explicit optimal control techniques.

6. **"Aerial Co-Manipulation with Cables: The Role of Internal Force for Equilibria, Stability, and Passivity", Tognon et al. (2018)**

Cooperative manipulation with UAVs. Cable-suspended payload with 2 agents, leader-follower structure, decentralized control. Analytic derivation of admittance controller for each agent; non-zero internal force plus a forcing input causes asymptotic convergence to a desired load configuration. No explicit optimal control techniques.

7. "Collaborative Transportation Using MAVs via Passive Force Control", Tagliabue et al. (2017)

Cooperative transportation with UAVs. Cable-suspended payload, leader-follower structure, decentralized control. Leader control is neglected ("runs a standard trajectory tracking feedback loop"). Follower control is divided into four components: state estimator, force-torque estimator (relies on unscented Kalman filter), admittance controller (provides reference pose given the desired trajectory and the estimate of external force and torque), and an MPC-based position and altitude controller (design detailed in authors' previous work).

8. "Asymmetric Collaborative Bar Stabilization Tethered to Two Heterogeneous Aerial Vehicles", Pereira et al. (2018)

Cooperative transportation with UAVs. Cable-suspended payload, centralized control. PID controller with saturation effect; conditions on PID parameter values derived through analysis of the linearization of closed-loop system dynamics. No explicit optimal control techniques.

9. "A Study on Force-Based Collaboration in Flying Swarms", Gabellieri et al. (2018)

Cooperative transportation with UAVs. Cable-suspended payload, leader-followers structure, decentralized control without explicit communication. Derivation of biologically-inspired cooperative aerial transportation strategy, focusing on non-zero internal force; conjectures that increasing internal force causes a faster convergence to equilibrium, and that increasing leader mass with respect to followers' masses reduces the force that the leader needs to exert. No explicit optimal control techniques.

10. "Cooperative load transportation using multiple UAVs", Shirani et al. (2018)

Cooperative transportation with UAVs. Cable-suspended payload, decentralized control. Inner control loop: stability augmentation using Udwadia-Kalaba method for modeling coupled load-agent dynamics and PD controller for individual position. Middle control loop: flight formation control based on LQR (optimization problem involves maximizing the sum of weight matrices' eigenvectors) and a linearization of system about its equilibrium. Outer control loop: PD control for trajectory tracking.

11. "Decentralized collaborative transport of fabrics using micro-UAVs", Cotsakis et al. (2018)

Cooperative transportation with UAVs. Flexible payload, distributed control. Formation control via two methods: spring-damper method; potential field method. No explicit optimal control techniques.

12. "Distributed Decision Making and Control for Cooperative Transportation Using Mobile Robots", Ebel and Eberhard (2018)

Cooperative transportation with ground vehicles. Cooperative pushing, distributed control. Distributed MPC controllers determine velocity setpoint; cost function is the sum of individual tracking error and the formation error with respect to neighbors, constrained by velocity limits, zero velocity at the end of the horizon; approximate neighbor's predicted states with previously-communicated trajectory information; set weighting matrix to zero for large tracking errors (e.g. during initial formation or reorganization). PI controllers regulate agents' propulsion forces. Collision avoidance using penalty-force approach and VFH+- method.

13. "Cooperative Object Transport in 3D with Multiple Quadrotors using No Peer Communication", Wang et al. (2018)

Cooperative transportation with UAVs. Load rigidly grasped by multiple UAVs, distributed control. Derivation of a distributed wrench controller using local information and dynamic constraints. Trajectory planning involves minimizing the integral of snap (yields a quadratic program) and minimizing the total duration of the maneuvers (use gradient-free coordinate descent algorithm with line search along a time range; minimize the penalty for control bound violations).

14. "Cooperative control of multiple unmanned aerial systems for heavy duty carrying", Tan et al. (2018)

Cooperative transportation with UAVs. Multiple UAV rigidly attached to load, centralized control with inter-agent communication. Position and tilt angle of agents on the load is formulated as a discrete optimization problem (maximize a weighted sum of the angular accelerations about each axis of motion, and the linear acceleration in the vertical z axis, such that there is no agent overlap and the system can maintain static equilibrium); solutions derived using EA global optimization. Agents' inner control loop: position control using LQR (minimize error in state and cost of control signals). Agents' outer control loop: track reference trajectory using Robust Perfect Tracking Control.

15. "Communication-based Decentralized Cooperative Object Transportation Using Nonlinear Model Predictive Control", Verginis et al. (2018)

Cooperative transportation with ground vehicles. Load rigidly grasped by agents, leader-follower structure, distributed control. Leader solves receding horizon MPC problem (minimize state error and control input) and transmits predictions of system state for the control horizon to followers; followers solve the same problem (assume that there is no conflict between the leader's computed trajectory and the collision avoidance objective).

16. "Robust optimal motion planning approach to cooperative grasping and transporting using multiple UAVs based on SDRE", Babaie and Ehyaie (2017)

Cooperative transportation with UAVs. Load rigidly grasped by agents, decentralized control. Analytical derivation of "control fundamental vectors" (minimize the weighted sum of the squares of each quadrotors control inputs) and "individual control vectors" found using nonlinear robust optimal sliding mode control via the state-dependent Riccati equation (minimizes quadratic terms of the state and input).