Table 2Statistics on authors, powertrains, algorithms, and contributions of conference papers.

			is, and contributions of comercine papers.
Reference	Powertrain	Algorithm	Contribution
Biswas[98]	Power split	Q Learning	The RL-based EMS in real-world driving scenarios;
(2019)	HEV		
Gole[99]	FCV	Q Learning	Hardware implementation based on NVIDIA Jetson TX2;
(2019)			•
He[100]	Serial	DQN	The DQN-based EMS with target networks;
(2019)	HETV	DQIV	The DQTV bused DIVIS with target networks,
Heimrat[101]	SUV	DQN	Reflex-augmented RL for safety-critical applications;
	30 V	DQN	Kenex-augmented KL for safety-critical applications,
(2019)	D 11 . 1	DDO	
Hofstetter[102]	Parallel	PPO	Energy and emission management; simultaneously controlling the torque split,
(2019)	HEV	77.0	the electrical catalyst heating, and the combustion mode selection;
Shota[103]	Parallel	PPO	The RL-based EMS with connected information about the traffic lights;
(2019)	HEV		
Keyser[104]	PEV	Q Learning	Treating the electric dual-drive vehicle as a target; the RL-based EMS;
(2019)			
Li[105]	PEV	Q Learning	Lithium battery and supercapacitor; rule and QL-based strategy; switching the
(2019)			control strategy based on the actual situation between rule and QL-based EMSs;
Liessner[106]	Parallel	DDPG	Safety-critical applications; battery temperature;
(2019)	HEV		
Liessner[107]	Parallel	DDPG	Bayesian optimization for hyperparameters and vehicle parameters;
(2019)	HEV	2210	2 aj estan opanimization njipot paramitoris and veniete paramitoris,
Liessner[108]	Mild HEV	DDPG	The model-based hyperparameter optimization for DDPG; the random forest
(2019)	Willia Till V	DDIO	leads to twice the performance compared to the original hyperparameters;
Reddy[109]	FCV	Q Learning	Minimizing fuel consumption and improving the lifespan of batteries;
-	TC V	Q Learning	withinizing fuer consumption and improving the mespan of batteries,
(2019)	C I IIEW	0.1	DI destination of the second o
Sanusi[110]	Serial HEV	Q Learning	RL-adaptive DP-based EMS; compensating for both modeling uncertainties and
(2019)		D 11 07	variability;
Wang[111]	ERDEV	Double QL	The generalization ability to unforeseen trips;
(2019)			
Wang[112]	ERDEV	DDPG	The generalization ability to unforeseen trips;
(2019)			
Wang[113]	ERDEV	Distributional	Uncertainty estimation in a return distribution; transferrable framework;
(2019)		DDPG	
Biswas[114]	Multi-mode	A3C	Comparing rule-based and ECMS-based EMSs;
(2020)	HEV		
Liu[115]	Parallel	SARSA	Transition probability matrix; conditions recognition; transferrable framework;
(2020)	HEV		
Wang[116]	ERDEV	IQN	The full return distribution is estimated; the risk measure of conditional value at
(2020)	ERDE V	1011	risk;
Wang[117]	ERDEV	DQN	Vehicle to cloud; Bayesian ensemble; uncertainty estimation for action;
(2020)	ENDEV	DQN	venicle to cloud, Dayesian ensemble, uncertainty estimation for action,
, ,	PHEV	Q Learning	Considering battery SOC planning;
Wu[118]	FILLV	Q Learning	Considering battery SOC planning,
(2020)	D 111	D. LL DOM	CIDAO 1 (CC
Zhu[119]	Parallel	Double DQN	SUMO; urban traffic model;
(2020)	HEV		
Chen[120]	Parallel	Q Learning	State reduction mechanism; CO ₂ emission;
(2021)	HEV		
Deng[121]	Hybrid rail	TD3	Hybrid rail vehicles on remote non-electrified routes; a new reward function term
(2021)	vehicles		including the price, the SOC, and the fuel cell aging;
Guo[122]	FCV	Q Learning	Improved several objective functions for reducing hydrogen consumption and
(2021)			maintaining battery SOC;
Hu[123]	PEV	DDPG	Integrating the experience of agents; weighted evaluation strategy;
(2021)			-
Huang[124]	PHEB	DDPG	Real-world speed profile; the DDPG-based SOC reference trajectory generator;
(2021)		-	DNN-based speed prediction; MPC-based online optimal EMSs;
Huang[125]	Power split	DDPG	Prioritized experience replay; a real-world speed profile;
(2021)	PHEB	22.0	
(2021)	דוודה		

Reference	Powertrain	Algorithm	Contribution
Meng[126]	FCV	Double Q	Overcoming the overestimation;
(2021)		Learning	
Sreekanth[127]	Parallel	DQN	Co-simulation studies between Matlab and the advanced vehicle simulator;
(2021)	HEV		
Tao[128] (2021)	PEV	Model-based RL	An RL-based NN model training by the fuzzy controller; reduce the prediction error and reselect the action for the RL controller; battery and supercapacitor;
Wei[129]	Power split	DDPG	Priority experience replay; battery thermal management by penalties about
(2021)	HEB		over-temperature; fully-continuous separate speed and torque control;
Ye[130]	PEV	Fast Q	Battery and supercapacitor; energy saving and battery aging;
(2021)		Learning	
Zheng[131] (2021)	FCV	DDPG	Prioritized experience replay;
Biswas[132]	Power split	A3C	An immediate reward should be articulated to control infeasibility;
(2022)	HEV		
Chen[133]	Power split	DDPG	The dimension disaster of Q-Learning; the discrete problem of DQN;
(2022)	HEV	DQN	
Chen[134] (2022)	FCV	DDPG	Ecological driving; reward for optimizing car-following, fuel consumption, and change rate of the output power of fuel cell system;
Ghaderi[135] (2022)	FCV	Q Learning	The fuzzy logic-based control determines the amount of power distribution; the RL-based policy optimally shares the power among the fuel cells;
Guo[136] (2022)	FCV	Q Learning	A fuzzy inference system to approximate the state-action value;
Guo[137]	FCV	Fuzzy Q	Suppressing frequent fuel cells startup by considering the penalty; fuzzy logic to
(2022)	101	Learning	approximate the value function to solve continuous state and action problems;
Han[138]	Serial HEV	Double Q	Avoiding the maximization bias;
(2022)	2011u1 11 <u>2</u> ,	Learning	Troining and manimization orac,
Hou[139] (2022)	FCV	Q Learning	Minimizing the hydrogen consumption and keeping a stable SOC level;
Lin[140] (2022)	PHEV	PPO	The DRL agent determines the equivalent factor of the ECMS-based EMS;
Lin[141]	Parallel	MCTS	Monte Carlo Tree Search-based adjustment method for the equivalence factor of
(2022)	HEV		the ECMS-based EMS;
Shen[142]	FC Bus	DDPG	High-speed traffic scenarios; a real bus driving condition; NGSIM data;
(2022)			
Wang[143] (2022)	PHETV	DDPG	Serial parallel powertrain; an equivalent motor; RL-based mode selection and power distribution;
Wu[144]	Power split	5 DRL	Standard benchmarks and tighter metrics of experimental reporting; systematic
(2022)	HEV	algorithms	benchmarking studies on DRL-based EMSs;
Xu[145]	Power split	DDPG	Transfer learning; the influence of different noise;
(2022)	HEV		•
Ye[146] (2022)	PEV	Q Learning	Battery and supercapacitor; the digital twin methodology; hardware-in-the-loop; battery degradation;
Niu[147]	Power split	DQN	Connected vehicles; cloud and offline RL; batch-constrained DQN;
(2022)	HEV		
Zhang[148] (2022)	PHE Bus	PPO	Fuzzy-based style recognition (transient information) is treated the state;
Zhang[149]	Parallel	DQN	Bi-LSTM-based velocity prediction; reference SOC trajectory based on velocity
(2022)	HEV		and driving mileage; MPC-DRL-based EMSs;
Zhang[150]	Electric	DDPG	Customized cycle construction; data-driven EMSs; dual motors;
(2022)	Bus		
Li[151]	Power split	DQN	The DQN and DDPG-based EMSs for the Prius;
(2023)	PHEV	DDPG	
Xu[152]	PEV	SAC	Battery and supercapacitor; battery lifespan; joint energy management and
(2023)			eco-routing; the dynamic traffic flow; QL-based eco-routing; SAC-based EMSs;
Yadav[153]	Power split	DQN	The DQN and DDPG-based EMSs for the Prius; applying learned parameters for
(2023)	HEV	DDPG	initializing the new network;
Yazar[154]	Power split	TD3	The TD3-based EMS and comparing it with the QL, DQN, and DDPG;
(2023)	HEV		

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