Author Year	Nr. of part.	Age [wk]	Duration	Annotations	States	Signals	Method	Amount of data	Results	
Harper 1987	25	39 to 41 PCA	6 month	Manual based on Anders et al. (1971)	AS, QS, W	Heart rate Resp. rate	Discriminant analysis with age specific models	12h night sessions in sleep laboratory	Overall agreement: 84.8% First week: 85.6%	Only hear rate: 82.0% Only resp.: 80.0%
Haddad 1987	14	~44 to ~56 PCA	4 month	Manual scoring on EEG, EOG, chinEMG, behavior	REM, QS (during sleep)	Heart rate Resp. rate	Kolmogorov Smirnov distances	170 5min- epochs	Agreement: (Probability) AS: 99% (0.91[1st week]; 0.75 [4th week])	QS: 93% (0.87 ; 0.89) Overall probability: 0.88
Sadeh 1995	41	40 to 84 PCA	12 month	Observations of behavior and respiration	AS ,QS, W	Actigraphy	Linear discriminant analysis	8154 1min-epochs	Agreement: AS-QS-W Newborn: 74.9% 3 month: 87.3% 6 month: 83.2%	S-W Newborn: 88.9% 3 month: 93.8% 6 month: 97.9% 12 month:97.2%
Nason 2001	1	~48 to ~60 PCA	4 month	Manual scoring on EEG, EOG, ECG, Chest and abdominal movement	S, W	Heart rate	Wavelet analysis using Daubechy family. Linear discriminant analysis (LDA). Antede pendence models (AM).	128 30s-epochs	Agreement at weeks LDA 75-78% at 48 75-80% at 52 80-90% at 56 82-90% at 60	PCA: AM 89-90% at 48 94-95% at 52 89-91% at 56 96% at 60
Lewicke 2004	25	33 to 58 PCA		Manual scoring on EEG, EOG, EMG	S, W,	Heart rate Accelerometer	Learning Vector Quantization neural network		Agreement: HRV Sleep: 89.5% Wake: 56.5%	Accelerometer Sleep: 92.3% Wake: 42.4%
Lewicke 2008	190	39 to 53 PCA		Manual scoring on EEG, EOG, EMG with rejection of epochs with low confident	S, W,	Heart rate	Multilayer Perceptron neural network (MLP). Learning Vector Quantization neural network (LQV). Support vector machine (SVM).	1.1M 30s-epochs	Agreement: MLP Sleep: 86.1% Wake: 84.9%	LVQ Sleep: 89.3% Wake: 79.6% SVM Sleep: 90.2% Wake: 78.8%

Fraiwan 2011	29	40 PCA		Manual scoring by known expert.	AS, QS, W	EEG	Time frequency analysis: Wigner–Ville Distribution (I). Hilbert–Hough spectrum (II). continuous wavelet transform (III).		Accuracy: AS-QS I : 0.75 II : 0.65 III: 0.63	
Terril 2012	25	48 to 84 PCA	12 month	Manual folowing AASM guidelines	AS, QS, W	Respiration	Recurrence quantification analysis	30s-epochs	Agreement: AS-QS-W 2 weeks: 79.7% 3 month: 84.9%	6 month: 84.0% 12month: 79.2%
Palmu 2013	18	5 to 32 PCA		Manual scoring on EEG, chinEMG, EOG	S,W -cycle	EEG	Use of single feature: Percent of spontaneous activity transients	~19500 20 s-epochs	Agreement: (extracted from table) ~90%	
Isler 2016	49	37 to >44 PCA		I :PSG scoring following Anders et al. 1971 II: Behavior III: Respiration	AS, QS	Respiration variability	Time frequency analysis: Wigner–Ville Distribution (I). Hilbert–Hough spectrum (II). continuous wavelet transform (III).		Agreement: I : AS: 80% I : QS: 87% II: AS: 78% II: QS: 92%	III: AS:90% III: QS: 100%
Dereymaeker 2017	89	27 to 42 PMA		Manual Video and EEG scoring	QS	EEG	Cluster-based adaptive sleep staging	Mean EEG: 4h 55min	AUC 0.97	
Koolen 2017	67	24 to 45 PMA	2 month	Manual EEG characteristics scoring	AS, QS	EEG	Radial basis function kernel support vector machine	Training on 323 10min-epochs	Accuracy: 85% Sensitivity: 83% Specificity: 87%	