ID	Institution	Name of the set	Sensor name and frequency	Antena configuration	Data types	Num of gestures	Size (num of recordings)	Type of gestures	Gesture names	Year published	Key publication	Availability
1	HicupLab	Solids on Soli Includes data for 74 materials.	Soli 57–64 GHz	1 TX 4 RX	A seqance of 4 RD images, 100Hz sampling Can be expanded to IQ data.	6	17520	Mid-air gestures Robot Ball	No Action, Swing Right, Swing Left, Away, Towards, Wiggle	2022	Čopič Pucihar:2022 https://dl.acm.org/doi/10.1145/3532212 Solids on Soli: Millimetre-Wave Radar Sensing through Materials	Partialy public: https://solidsonsoli.famnit.upr.si/home Full: Upon request.
2	HicupLab	No interface No problem On object gesture detection	Soli 57–64 GHz	1 TX 4 RX	A seqance of 4 RD images, 100Hz sampling Can be expanded to IQ data	11 gestures on a picture frame	approx. 8800	On-object gestures Finiger/hand gestures	Thumb, Thumb down, Thumb up, Thumb joint, Thumb joint towards, Thumb joint away, Scratch, Scratch towards,Scratch away, Tickle Swipe	2021	Attygalle:2021 https://doi.org/10.3390/s21175771 No Interface, No Problem: Gesture Recognition on Physical Objects Using Radar Sensing	Full: Upon request.
3	HicupLab	No interface no problem On object gesture detection	Soli 57–64 GHz	1 TX 4 RX	A seqance of 4 RD images, 100Hz sampling Can be expanded to IQ data	6 gestures on a plush toy	approx. 4400	On-object gestures Finger/hand gestures	Thumb, Thumb joint, Scratch, Pinch, Squize	2024	not published	Full: Upon request.
4	HicupLab	Hybrid gesture set Includes data for 14 materials	60-64 GHz	3 TX 4 RX	* 100 Hz sampling * Hahnd pose data from leap motion * Raw voltages from radar sensor * RD	24	approx. 36000	Mid-air gestures Finger/hand gestures	Dynamic gestures: swipe left (azimuth x), swipe right (azimuth x), swipe up (vertical), swipe down (vertical), left cross, right cross pinch index, star or pinch pinkey, finger slide up, finger slide down, palm tilt, wiggle, hand opening, clenching	2024	not published	Not available as it is beeing collected in final stages
5	ETH Zurich, Goolge APT	Deep soli	60-64 GHz	1 TX 4 RX	Aveeraged RD images 50Hz	11	2750	Mid-air gestures Finer/hand gestures	Pinch index, Pinch pinky, finger Slide, Slove Swipe, Fast Swipe, Push, Pull, Palm Tilt, Circle, Palm Hold	2016	Wang:2016 https://dl.acm.org/doi/10.1145/2984511.2984565 Interacting with Soli: Exploring Fine-Grained Dynamic Gesture Recognition in the Radio-Frequency Spectrum	Public: https://github.com/simonwsw/deep-soli
6	Alto university Finland	Pantomime	77-81 GHz	3 TX 4 RX	Pointcloud data 30Hz		22000	Mid-air gestures Arm	Easy set: (a) ‘lateral raise’, (b) ‘push-down’, (c) ‘lift’, (d) ‘pull’, (e) ‘push’, (f) ‘lateral-to-front’, (g) ‘swipe right’, (h) ‘swipe left’, (i) ‘throw’. Complex set: (j) ‘arms swing’, (k) ‘two-hand throw’, (l) ‘two-hand push’, (m) ‘two-hand pull’, (n) ‘two-hand lateral-raise’, (o) ‘left-arm circle’, (p) ‘right-arm circle’, (q) ‘two-hand outward circles’,(r) ‘two-hand inward circles’ (s) ‘two-hand lateral-to-front’, (t) ‘circle clockwise’, (u) ‘circle counter-clockwise’.	2021	Palipana:2021 https://dl.acm.org/doi/10.1145/3448110 Pantomime: Mid-Air Gesture Recognition with Sparse Millimeter-Wave Radar Point Clouds	Public: https://zenodo.org/records/4459969#.YnT9n3VBw5k
7	UCLouvain, University of Padova	FORTE	3.3 - 10 GHz	12 RX	????	20	20 ges x 22 parti x 10 rep = 4400	Mid-air gestures Hand, arm, and body	Open hand, Closed hand, Oepn tehn close hand, Swipe right, Swipe left, Swipe up, Swipe down, Push with fist, Pull with palm, Wave hand, Draw an infinity symbol, Barrier gesture, Extend one finger, Extend two fingers, Extend three fingers, Extend 4 fingers, Knock twice, draw a circle, draw a Z, touch nose with index	2023	Chioccarello:2023 https://dl.acm.org/doi/pdf/10.1145/3593231 Forte: Few Samples for Recognizing Hand Gestures with a Smartphone-attached Radar	

ID	Institution	Name of the set	Sensor name and frequency	Antena configuration	Data types	Num of gestures	Size (num of recordings)	Type of gestures	Gesture names	Year published	Key publication	Availability
8	UCLouvain	Radar HGR Dataset	3.3 - 10 GHz	6 RX	Leap motion, Horn antenna, wallabot radar, range fft, spectrogram	16	?		Open hand, Closed hand, Open then close hand, Swipe right, Swipe left, Swipe up, Swipe down, Push with fist, Pull with palm, Wave hand, Draw an infinity symbol, Barrier gesture, Extend one finger, Extend two fingers, Extend three fingers, Extend four fingers	2022	Sluÿters:2022 https://dl.acm.org/doi/10.1145/3490099.3511107 Hand Gesture Recognition for an Off-the-Shelf Radar by Electromagnetic Modeling and Inversion	Public https://osf.io/9e42f/?view_only=639c3c31bb24490387fdbb09c1eb3ec7
9	Beijing University of Posts and Telecommunications, Beijing, China	Real-time Arm Gesture Recognition	TI-IWR1443 76 - 81 GHz	3 TX 4 RX	Pointcloud	10	22,000 samples from 25 persons	Multi-joint arm gestures	To evaluate mHomeGes, we design 10 arm gestures (Fig. 2), including lift one arm up (AU) or down (AD), push (PS) or pull (PL) one arm, draw a circle (DC) or a zigzag (DZ), clap two hands (CH), imitate knocking table by one hand (KT), yawn (YA), and lift both arms up (LB).	2020	Liu:2020 https://dl.acm.org/doi/10.1145/3432235 Real-time Arm Gesture Recognition in Smart Home Scenarios via Millimeter Wave Sensing	Public https://github.com/GestureMan/mHomeGes-dataset
10	George Mason University, Fairfax, Virginia	mmASL	National Instruments (NI) multi-FPGA 60 GHz transciver system (modules used NI PXIe 7902, 7976 and 3610/3630 for ADC/DAC, modulation/demodulation and encoding/decoding), and a V-band RF frontend and phased antenna array from SiBeam	12 TX 12 RX	Dopler spread data	50		American Sign Language (ASL) “h” is horizontal (parallel) and “v” is vertical (perpendicular) to coronal plane, and r means repetitive.	AC-rv, Alarm-rh, Bedroom-h, Calendar-rv, Camera-h, Cancel-h, Direction-h, Dim-h, Door-rv, DoorBell-rh, Email-v, Event-rh, Food-rv, Game-rh, Good morning-v, Heat-v, House-h, How-v, Kitchen-h, Light-rh, List-rh, Lock-v, Message-h, Movie-rv, Night-rh, Order-v, Phone-rh, Picture-v, Place-rv, Play-h, Rain-rv, Raise-h, Restaurant-h, Room-h, Schedule-h, Shopping-rv, Snooze-h, Snowh, Stop-v, Sunny-h, Temperature-rh, Time-rh, Today-h, Traffic-rv, Turn down-h, Turn Off-h, Turn on-h, Wake-up-h, Weather-h, Weekend-h	2020	Santhalingam:2020 https://dl.acm.org/doi/10.1145/3381010 mmASL: Environment-Independent ASL Gesture Recognition Using 60 GHz Millimeter-wave Signals	Public https://dl.acm.org/doi/10.1145/3490099.3511107
11		Deep soli	/	/	/	/	/	/	/	2016	Wang:2016 https://doi.org/10.1145/2984511.2984565 Interacting with Soli: Exploring Fine-Grained Dynamic Gesture Recognition in the Radio-Frequency Spectrum	Public https://github.com/simonwsw/deep-soli
12	UCL, TU Delft	Dop-NET	Ancortek 24 GHz FMCW radar	1 TX 2 RX	micro-Doppler spectrogram (the radar also provides range but not sure if it was used)	4	3052 measurements from 5 participants	Midair hand gestures	1. Swipe; 2. Click; 3. Pinch; 4. Wave	2020	Ritchie:2020 https://ietresearch.onlinelibrary.wiley.com/doi/10.1049/el.2019.4153	Public https://dop-net.com/
13	Vrije Universiteit Brussel	GestureVLAD	Soli	The same as in 5 - Deep Soli	range-Doppler		The same as in 5 - DeepSoli - 11 from 10 users, 2750 gesture sequences			2019	Berenguer:2019 https://ieeexplore.ieee.org/abstract/document/8844679 GestureVLAD: Combining Unsupervised Features Representation and Spatio-Temporal Aggregation for Doppler-Radar Gesture Recognition	The same as in 5 - Deep Soli https://github.com/simonwsw/deep-soli
14	UCL	CW radar	CDM324 CW Radar Module 24GHz	1 TX 1 RX	raw beat frequency, the range of frequencies of interest top out at around 1 kHz (the signal processed by PC audio card)	4 - The same as in 12 Dop-NET	5 users 4 gestures with over 400 repetitions	The same as in 12 Dop-NET	The same as in 12 Dop-NET	2020	Bannon:2020 https://ieeexplore.ieee.org/document/9114650 Exploring gesture recognition with low-cost CW radar modules in comparison to FMCW architectures	Public The same dataset as in 12 http://dop-net.com/about/

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15	Ghent University	HARrad	INRAS 77 GHz FMCW radar (from 2017 https://inras.at/en/)	1 TX 1 RX single-input single-output (SISO)	range-Doppler (RD) maps that show range and velocity information Video camera recordings (341 x 256 pixels at 15 FPS (as radar))	6 gestures (1st data set) 6 events (2nd data set)	1st dataset of 2347 six gestures 2nd dataset of 1505 six events	fine hand gestures coarse-grained everyday activities	Drumming, Shaking, Swiping left, Swiping right, Thumb up, Thumb down Entering room, Leaving room, Sitting down, Standing up, Clothe, Unclothe	2020	Vandersmissen:2020 https://link.springer.com/article/10.1007/s00521-019-04408-1 Indoor human activity recognition using high-dimensional sensors and deep neural networks	Public https://www.imec-int.com/en/79GHz-and-140GHz-radar-solutions/harrad 2 more datasets are mentioned in the paper http://crcv.ucf.edu/data/UCF101.php https://20bn.com/datasets/jesterr
16	Hanyang University, Seoul, South Korea	UWB-gestures	XeThru X4 UWB impulse radar sensor from Novelda - a bandwidth of 2 GHz centered at a frequency of 8.745 GHz 3 Radars - horizontal, and 2 top, left and right	2 TX 2 RX	data matrices	12	???	hand gestures	left-right (LR) swipe, right-left (RL) swipe, up-down (UD) swipe, down-up (DU) swipe, diagonal (diag)-LR-UD swipe, diag-LR-DU swipe, diag-RL-UD swipe, diag-RL-DU swipe, clockwise rotation (CW), counterclockwise (CCW) rotation, and empty gesture	2021	Ahmed:2021 https://www.nature.com/articles/s41597-021-00876-0 UWB-gestures, a public dataset of dynamic hand gestures acquired using impulse radar sensors	Public https://figshare.com/articles/dataset/A_Public_Dataset_of_Dynamic_Hand-gestures_Acquired_using_Impulse-radar_sensors_/12652592
17	University of Glasgow	University of Glasgow Radar Signature dataset	FMCW radar 5.8 GHz, 1 ms pulse repetition, 400 MHz bandwidth, and 128 complex samples per sweep. Two Yagi antennas	1 TX 1 RX	micro-Doppler	6	1754 motion captures were recorded from 72 participants aged 21 to 98 years old	body "gestures" - user activities	walking, sitting, standing, picking up an object, drinking and falling	2019	Fioranelli:2019 https://ietresearch.onlinelibrary.wiley.com/doi/10.1049/el.2019.2378 Radar sensing for healthcare	Public https://researchdata.gla.ac.uk/848/
18	Northwest Normal University, Lanzhou, China		77 GHz FMCW radar		range-time map (RTM), Doppler-time map (DTM) and angle-time map (ATM)	14		arm gestures	BFB, CWF, DUD, FBF, FP, GRASP, LRL, OK, RLR, SF, THUP, DUD, Z BFB - back forward back, The paper poorly explains everything. The radar is not described, the gestures as well.	2024	Hao:2024 https://www.nature.com/articles/s41598-024-64576-6 Millimeter wave gesture recognition using multi-feature fusion models in complex scenes	Upon request
19	Yonsei University, Seoul, South Korea	time-domain AI radar system	Pulse radar 3-5 GHz (no other info)	1 TX 1 RX		5 static and 6 dynamic gestures	10000	hand gestures	“A,” “B,” “V,” “D,” and “L” letters in the American sign language [27] for signaling “opening,” “clenching,” “forward,” “backward,” “swing,” and “pointing,”	2020	Park:2020 https://ieeexplore.ieee.org/abstract/document/8976307 , A Time Domain Artificial Intelligence Radar System Using 33-GHz Direct Sampling for Hand Gesture Recognition	