

What can you do with this technology?

YouTube or other streaming services may use this technology for all of its workout videos and provide a Normalized Movement Energy Value as seen below:

10 Minute Abs Finisher | The Body Coach TV

68,265 views • May 16, 2021

The Body Coach TV
2.76M subscribers

NME for this video: 1.2M Joules
Relative Difficulty (1-100): 58

1.2K 15 SHARE SAVE

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10 moves | 40 seconds work | 20 seconds rest

Normalized Movement Energy: The energy spent by an average person repeating movements of this video

(I am in no way affiliated with “The Body Coach TV” at the time of this paper (6/1/2021))

The NME can be in the following units: Joules or Calories. This method of normalized energy calculation is simple to use: just feed in a video to the tool/app and let it compute an NME. We believe it is more objective than a conventional calorie method which differs from person to person: i.e. any person doing a conventional calorie method will record a calorie count that is unique to their body for the movements they performed, it is not objectively comparable between workouts. A system that purely tracks movement and calculated energy spent is more objective, especially in the normalized mode.

YouTube may also choose to show the energy used by different parts of the body in said workout.

Mirror or Pelaton may use this technology for all of its workout videos and provide a Normalized Movement Energy value and a difficulty index value for their customers to consider while choosing the workout. They can also show the energy used by different parts of the body in said workout.

Customers of Mirror (or other exercise services) may also allow recording of their own live workouts video and compare their NME's to that of the trainers: this is a good measure of whether they're slacking or they're pushing hard. NME's can be compared either during (live data) or after the workouts. The trainer in the video feed (whether real or automated) can then provide feedback such as: "I see you slacking, cmon push harder now!". This video recording of the customer can be for this tool's automated computation purposes only: i.e no human will see that recording ever.

The same thing with conventional calorie count is not possible since everybody's calorie rates differ for the same movement; so there isn't an objective way to compare if the same movement energy was spent.