

Tempo data from 50 performances of Beethovens Appassionata (Op. 57)

Documentation of the database

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General Information

This database holds tempo data from 50 performances of Beethoven's famous piano sonata Op. 57, also known as the *Appassionata*. Different versions of the score are for example freely available from the Petrucci Music Library (<http://imslp.org>). For further study, we recommend to either use the [edition from Heinrich Schenker](#) including bar numbers, or the [edition from Arthur Schnabel](#) including his tempo annotation. This document details the content, structure, and acquisition of the database (last checked Feb. 2018). In case you are using any of this data, please refer to

Fabian Brinkmann and Heinz von Loesch, "Tempo data from 50 performances of Beethovens *Appassionata* (Op. 57)." <http://dx.doi.org/10.14279/depositonce-7002>.

The data is provided under a Creative Commons share alike license (CC-BY-SA, <http://creativecommons.org/licenses/by-sa/4.0/>). If you are interested in results of the tempo analyses, please refer to the related publications.

Related Publications

Heinz von Loesch and Fabian Brinkmann, "Tempomessungen in Klaviersonaten Ludwig van Beethovens; Tempo measurements in piano sonatas by Ludwig van Beethoven", Staatliches Institut für Musikforschung Preußischer Kulturbesitz, Berlin (2013). http://www.sim.spk-berlin.de/_tempomessungen_bei_beethoven_1317.html (german), http://www.sim.spk-berlin.de/en/tempo_measurements_in_beethoven_1315.html (english).

Heinz von Loesch and Fabian Brinkmann, "Das Tempo in Beethovens *Appassionata* von Frederic Lamond (1927) bis András Schiff (2006)," in *Gemessene Interpretation. Computergestützte Aufführungsanalyse im Kreuzverhör der Disziplinen*, ser. Klang und Begriff, vol. 4, H. v. Loesch and S. Weinzierl, Eds. Mainz et al.: Schott, 2011, pp. 83–100.

Heinz von Loesch and Fabian Brinkmann, "Die Tempogestaltung in Artur Schnabels *Appassionata*-Einspielung im Kontext zeitgenössischer Interpretationen," in *Beethoven 5 – Studien und Interpretationen*, M. Tomaszewski and M. Chrenkoff, Eds. Kraków, Poland: Akademia Muzyczna w Krakowie, 2012, pp. 215–224.

Heinz von Loesch and Fabian Brinkmann, "Temp v *Appassionate* Bethovena v ispolnenijah ot 1927 do 2006 goda" ("Das Tempo in Beethovens *Appassionata* in Interpretationen von 1927 bis 2006", in russ. Sprache), *Muzykal'naja Akademija*, 2012(2), pp. 88–96.

Heinz von Loesch and Fabian Brinkmann, "Sravnitel'nye izmerenija tempa v interpretacijah bethovenskih sonat i drugih proizvedenij" ("Vergleichende Tempomessungen in Interpretationen von Sonaten Beethovens und anderen Werken", in russ. Sprache), in *Quantitative methods in art studies. Proceedings of international conference in memory of German A. Golitsyn*, Ekaterinburg, Russia, 2013, pp. 138–143.

Heinz von Loesch and Fabian Brinkmann, "Macht Artur Schnabel eigentlich, was in seiner Beethoven-Ausgabe steht? Formkonzeptionen in Aufführungstheorie und Aufführungspraxis bei Artur Schnabel", in *Artur Schnabel. Interpret, Pädagoge und Komponist*, Albrecht Dümling, Ed. (Schriftenreihe der Hochschule für Musik Saar 8), St. Ingbert, 2018, pp. 59-70.

Database acquisition

The beginning of each bar in seconds was manually marked with utmost caution using **Sonic Visualiser**. Before the data were exported to text files, each annotation was double checked by an ever identical expert. Matlab was used to calculate the duration T of the bars in seconds, from which the tempo in beats per minute (BPM) was obtained by

$$\text{BPM} = \frac{60}{T} \cdot 4.$$

Averaging the tempo of several performances was done by averaging T in a first step, and calculating the corresponding tempo in a second.

Tempo data

The tempo data is saved in comma separated values (csv) text files, where each column holds the data of one performance. The first row is named according to the performer and the recording year. Three types of data are provided:

`Beethoven.Op57.Beginnings.csv` holds the start time of each bar in seconds. The second column holds the start time of the first bar, etc.

`Beethoven.Op57.Durations.csv` holds the duration of each bar in seconds. Note that no duration is given for the last bar. The first column contains the duration of the first bar, etc.

`Beethoven.Op57.Tempi.csv` holds the tempi for each bar in beats per minute (BPM). Note that no tempo is given for the last bar. The second column holds the tempo of the first bar, etc.

Creating and interpreting tempo figures

A selection of tempo figures is contained in this database for your convenience. They were created with Matlab and the script `create_figures.m`. The horizontal axes of the figures show the bar number, while the vertical axes gives the tempo. For better orientation, the *Formteile* are marked by means of vertical lines. The tempo-values of the bars were connected by lines to improve readability. Note that the tempi were only assessed on a bar level, i.e. if the line falls from one bar to another, it does *not* mean that the tempo decreases during the corresponding bar.

Acknowledgement

We would like to thank all students that helped with annotating the start times of the bars.

List of performances

Recorded	Performer	Record label & Label code
1927	Harold Bauer Frederic Lamond	APR 7302 A Biddulph LHW 043
1932	Wilhelm Kempff	HISTORY 20.3163-306
1933	Artur Schnabel	Pearl GEMM CDS 9139
1935	Edwin Fischer	ARPCD 0073
1936	Rudolf Serkin	https://youtu.be/a_VQNDB-PeY
1939	Walter Giesecking	HISTORY 20.3162-306
1930 th	Samuel Feinberg	ARBITER 118
1946	Nicolas Medtner	APR 5546
1947	Rudolf Serkin	Music & Arts CD-1141(2)
1951	Walter Giesecking Emil Gilels Wilhelm Kempff	EMI 5 67585 2 Music & Arts CD-1102 ARPCD 0080
1952	Elly Ney	Urania SP 4233
1954	Solomon	Testament SBT 1192
1958	Wilhelm Backhaus Friedrich Gulda	Decca 475 7204 Decca 443 012-2
1959	Vladimir Horowitz Svjatoslav Richter	RCA Victor 09026 68977 2 MEL CD 10 00732
1950 th	Grigory Ginzburg	VACD 00108-111
1960	Maria Grinberg Svjatoslav Richter Vladimir Sofronitsky	VVCD-00096 RCA Victor 07863 56518 2 VVCD-00155
1961	Emil Gilels	Brillant Classics 92434/6
1962	Alfred Brendel	ALC 1016
1963	Rudolf Kerer Arthur Rubinstein Rudolf Serkin	<i>from sovjet movie "Appassionata"</i> RCA Victor 09026-63056-2 CBS MYK 37219
1964	Wilhelm Kempff	DG 447 404-2
1965	Claudio Arrau	Decca 475 8045
1967	Daniel Barenboim Glenn Gould Friedrich Gulda	EMI 5 72917 2 CBS 88697 148 112 Decca 476 8761
1970	Alfred Brendel	Philips 438 730-2
1975	Emil Gilels Maria-João Pires	DG 453 221-2 apex 8573 89225 2
1980/82	Rudolf Buchbinder	Teldec 3984-21336-2
1981	Daniel Barenboim	DG 419 602-2
1985	Murray Perahia	Sony Classical SMK 93030
1987	Melvyn Tan (<i>piano forte</i>)	Virgin Classics 7243 5 623682 0
1988	Mikhail Pletnev	Virgin Classics 0946 363280 2 7
1992	Svjatoslav Richter	Decca 475 8124
1993	Richard Goode	Electra Nonesuch 9 79328-2
1995	Alfred Brendel	Decca 478 1829
2001	Pierre-Laurent Aimard	Teldec 0927-43088-2
2002	Maurizio Pollini	DG B0000059-02
2005	Fazıl Say	naïve V 5016
2006	András Schiff	ECM 1947 B0010814-02
2007	Ronald Brautigam (<i>piano forte</i>) Lilya Zilberstein	BIS-SACD-1573 K & K Verlagsanstalt 02